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MUSCIDAE: B.—COENOSIINAE

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4. MUSCIDAE: B.—COENOSIINAE

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This second part of the report on the Muscidae of the Ruwenzori Expedition deals with the subfamily Coenosiinae, of which almost 900 specimens of 93 species and subspecies were collected. Together with this material numerous collections received from East African countries (Kenya, Uganda, Sudan, Tanganyika) by the Imperial Institute of Entomology, and the collections and accessions of the British Museum were studied. The Muscidae collected by Dr. Scott and Mr. J. Omer Cooper in Abyssinia were worked out at the same time and the new species in this collection have been incorporated in the keys except for the genus *Microcalyptra*, of which the Ruwenzori Expedition found only a single specimen and which, therefore, will be keyed in the report on Dr. Scott's expedition to Abyssinia.

Our knowledge of these flies is much less advanced, as far as the Ethiopian region is concerned, than that of the Muscinae and Stomoxydinae. Striking testimony to this is the fact that Speiser (1910, Sjöstedts Kilimandjaro–Meru Exp. 10. Diptera: 165) listed only a single species of this subfamily from the Kilimanjaro and that Séguy's recent paper (1938, Miss. scient. Omo 4, Zool.: 277) contains not more than seven species of it. It was, therefore, deemed advisable and proved even inevitable to refrain from any zoogeographical conclusions but to present complete keys to the material studied. These keys are the only means of showing fairly exactly the author's concept of the previously known species. This is so much the more necessary as the existing keys of Stein,[1] Malloch[2] and Curran[3] often lead to the same name for species which are not at all closely related and, moreover, include between them only 64 (Malloch alone 51) species, less than half the number of species accounted for in the present keys, which cover 158 species and subspecies, just over half this number being new to science. As the number of described Ethiopian species (incl. Seychelles and Madagascar), not represented in the various collections studied, is not very large (36 species, of which 21 could be incorporated in the key from descriptions), all the described species of this region, as far as possible, have been included.

[1] 1913, Ann. Mus. nat. Hungar. 11: 565–567 (*Coenosia s. lat.*); 1919, Arch. Nat.-gesch. 83 A1: 88–101 (genera).

[2] 1922, Ann. Mag. nat. Hist. (9)10: 380–381 (*Pygophora*), 575–580 (genera of Coenosiinae, *Caricea*); 1924, l.c. (9)13: 411–413 (*Atherigona excisa* and *setifemur* groups).

[3] 1935, Amer. Mus. Novit. 776: 1–12 (*Caricea*).

Unfortunately my attempts at seeing the types failed owing to the imminence and outbreak of the war. Except for the types in the Entomological Museum of the University of Kansas, which through the kindness of Prof. H. B. Hungerford I was able to study at an earlier stage of this paper, and for the types in the British Museum (Natural History) and in Mr. J. E. Collin's collection, no types were therefore checked. My thanks are due to Prof. Hungerford and Mr. Collin as well as to Mr. G. C. Varley of the University Museum of Zoology, Cambridge, who informed me that the species described by Stein from the Cambridge Museum have never been returned and seem to be lost. Dr. C. H. Curran was kind enough to run down his species, so far as they are in the American Museum of Natural History, in my key, and I wish to thank him for the important help afforded in this way. Thanks for information on several native names of plants are due to Sir Guy A. K. Marshall and Mr. J. E. Dandy. For the conscientious execution of the drawings I would express my thanks to Miss D. Fitchew (hypopygial prominences and trifoliate processes of *Atherigona*, slightly shaded and unshaded), Miss M. Mackay (hypopygial prominences and trifoliate processes of *Atherigona*, shaded), and Miss O. F. Tassart (remaining figures). Finally I thank Dr. F. W. Edwards and Sir Guy A. K. Marshall sincerely for their original suggestion that I should undertake the study of this rich material.

As in the first report of this series, the abdominal segments are counted in the usual way, i.e. the first two connate segments as one, so that the last entirely free tergite of the female is the fourth. Genera and forms mentioned in this report but not represented in the material of the Ruwenzori Expedition are put in square brackets. Species incorporated from literature are marked with an asterisk, those incorporated on the authority of Dr. Curran or confirmed by him with a cross.

The abbreviations used are the same as in my first report, with the following additions:

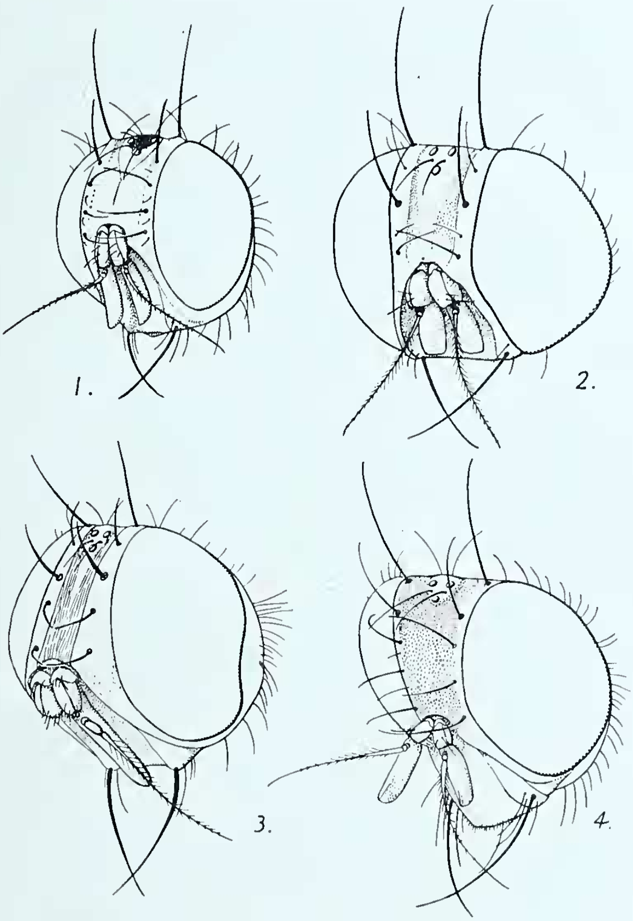
m-m posterior cross-vein
ph posthumeral seta.

The types of the new forms are in the British Museum (Natural History).

CHARACTERS AND CLASSIFICATION OF THE COENOSIINAE

The Coenosiinae as understood in this paper are defined as Muscidae with the following characters: Inner margin of lower calyptra more or less strongly diverging from sides of scutellum, apex rounded or almost triangularly pointed, not truncate (distinction from Muscinae). Sixth vein ($cu_2 + 2^d a$ according to Comstock, $cu_1 + a_1$ according to Hendel) not reaching margin of wing even as a fold, ventral surface of scutellum not bearing fine, short, erect hairs

(distinction from Anthomyiinae).[1] Parafacialia bare (haired in Lispinae). Pteropleura bare[2] (with a tuft of hairs in Lispinae, haired in Stomoxydinae and others). Frons of both sexes of subequal width (sometimes slightly narrower



FIGS. 1–4. 1.—*Coenosia heterocnemis* sp. n. 2.—*Orchisia costata* Meig. 3.—*Amicitia lucens* sp. n. 4.—*Caricea argentipes* sp. n. Heads in three-quarter view.

in *female*), more or less broad (at least a seventh the width of the head at the narrowest point), without cruciate interfrontal or proclinate orbital setae and

[1] The character of the sixth vein would also separate the Coenosiinae from the Gastrophilinae, but there is much evidence of the latter's belonging to the Acalyptrata (second antennal joint, position of abdominal spiracles, size of calyptrae).

[2] The male of the Patagonian genus *Raymondomyia* Mall. is unknown. Besides the few short hairs of the pteropleura the female shows several other characters which are unusual in the Coenosiinae, and only the discovery of the male will settle the systematic position of this genus.

with only one (Figs. 1 and 4) or two more or less strong and conspicuous reclinate frontal setae, of which the anterior one is always longer, if two are present (Figs. 2–3), the reclinate setae always conspicuous, well separated and never bent outward (distinction from Phaoniinae and Fanniinae).

To these characters, which are strictly diagnostic, the following important distinctions may be added, though some of them are only valid for the species of the Ethiopian region: Mentum rather heavily chitinized but shorter than the head and only slightly tapering to apex. Never more than one strong (but sometimes two weak or a moderate and a strong) *prst dc* and three strong (sometimes 2–3 weak and two strong) *post dc. stpl* usually in an almost equilateral triangle, generally three present. Lower prostigmatal seta usually curved downward. Apical half of subcosta distinctly curved forward (not straight as in Fanniinae), seventh vein ($3^{d}a$ according to Comstock, a_2 according to Hendel) gently and slightly curved forward (not sigmoid and strongly curved forward round apex of sixth). Costal spine usually indistinct. Veins always wholly bare (except, of course, costa).

As far as known the adults are predators on other insects, and this would, according to Séguy (1937, Gen. Ins. 205: 224) also more or less apply to the somewhat aberrant genus *Atherigona*, about which he writes that they are occasionally zoophagous and eat small insects with soft integument, which they catch in flying. I have no evidence to the contrary, but Malloch (1929, Ins. Samoa 6: 157) states that the adults of *Atherigona* are not predacious. In the material worked out on the present occasion I saw six species of Coenosiinae with their prey: *Caricea inaequivitta* Mall. with the prey *Nephrotoma* sp., a Tipulid, *C. calopoda* Bezzi with *Trentepohlia* sp., a Tipulid, *C. punctigera* Stein with *Culex fatigans* Wied.?, *C. pachypoda* Big. with an indeterminable Dolichopodid, *C. hargreavesi* Emd. with *Sciara sp.*, and *Pygophora acromiata* Speis. with *Sciara flavoscutellata* End.? The prey has kindly been identified by Dr. F. W. Edwards. Nematocera play an important part in the records of the prey of Coenosiinae found in literature,[1] and in this respect the group must be regarded as essentially beneficial. Little is known of the biology of the larvae, which seem to be largely scavengers or predators, but the species of *Atherigona* s. str. are phytophagous (see p. 102). This fact in combination with the two small distant *prst dc* and more than three (though mainly small) *post dc* tends to give that genus a somewhat isolated position, though I am convinced that it is really closely related to the Coenosiinae.

The subfamily is usually divided into two groups: Coenosiini and Chelisiini, the latter being characterized by two *prst dc*. *Chelisia* itself is, however, hardly related to the other genera in this aggregate, as it presents cruciate interfrontal setae, proclinate frontal setae, fine erect hairs on the ventral surface of the

[1] See *e.g.* A. M. Evans, 1930, Trans. Ent. Soc. London 78: 325; B. M. Hobby, 1931, Proc. Ent. Soc. London 6: 13; A. Cuthbertson, 1937–1939, Trans. Rhodesia Scient. Assoc. 35: 21; 36: 119; 37: 139.

scutellum, two subequal, strong *prst dc*, a distinct though small costal spine, more richly setose mid and hind tibiae, and a sixth vein which almost reaches the wing-margin as a fine fold. It should in my opinion be united with the Anthomyiinae, and Mr. Malloch agrees in a letter with this view. Collin (1927, Ent. Mo. Mag. 63: 130) also enumerates *Chelisia* among the genera of the "*Hylemyia-Chortophila*-group." Practically all the Coenosiinae have smaller setae or hairs in the *dc* rows between the strong setae, one of them rather close to and in front of the first *dc*. This hair may be shorter or longer and is very variable even within one genus. Though there is a distinct tendency for this hair in the aggregate around *Coenosia* and *Caricea* to become small and inconspicuous and in the group around *Lispocephala* to remain quite conspicuous, its development is very fluctuating in the different species of *Pygophora*, *Lispocephala* and others. The presence of one or two reclinate frontal setae affords a much better and certainly very natural character for the primary classification of the Coenosiinae. Malloch even goes so far as to unite the group with two reclinate frontals with the Phaoniinae (1934, Dipt. Patag. S. Chile 7: 177, 209; personal communications) with which they really seem to link the Coenosiinae. I do not like this idea, as *Pygophora* especially is very closely related to the *Coenosia* group, and I am, on the other hand, not fully convinced that the character of a single reclinate seta may not occur in any Phaoniinae. It may be mentioned that in two specimens seen the second reclinate seta is absent on one side, but present on the other. It is hardly desirable to name the two groups of Coenosiinae, and the Chelisiini will have to disappear, as far as their type-genus is concerned, into the synonymy of the Anthomyiinae, and as far as their main contents is concerned, into that of the Coenosiinae.

Key to the Genera of Coenosiinae of the Ethiopian Region[1]

1(14). One pair of reclinate frontal setae (figs. 1, 4). Hind tibiae usually without a *pd* and never with two *pd* setae.

2(13). Hind tibiae without an outstanding *a* bristle near middle, but usually[2] with an *av* bristle inserted well distad from the *ad* (Fig. 64, p. 155) or with two *ad* or *av*.

[1] The genus *Tenuicosta* Stein from Madagascar has been omitted from the key, as no specimen was available. It is characterized by only two strong *post dc* and the costa ending at or slightly beyond r_{4+5}. The mid-tibiae with a subbasal *p* seta, which is very long in the male (evidently besides the submedian *ad* and *pd* setae).

[2] The *av* is absent in both sexes of *Anaphalantus* (usually) and a few *Atherigona* and in males of some *Microcalyptra* and a few *Coenosia*, and the *a* in the males of a few *Caricea* (*vittata, xenia, hippelates, nigritibia, flavivibrissata?, aristalis*, and *gilvicoxa*). In these males of *Caricea*, which could otherwise, of course, not be distinguished by the key from the males without *av* of the genera mentioned, the *prst dc* are strong (whereas they are inconspicuous in *Atherigona*), the thorax and abdomen are never largely glossy black (distinction from *Microcalyptra* and *Anaphalantus*); if a *pd* is present on the hind tibiae the upper prostigmatal seta is much weaker than the propleural (distinction of *Caricea vittata* from *Coenosia heterocnemis*), and if no *pd* is present on hind tibiae, either at least the front coxae are almost entirely yellow (distinction of *Caricea flavivibrissata, xenia, aristalis* and *gilvicoxa* from *Coenosia aurifacies*), or the front femora are more or less black (distinction of *Caricea hippelates, nigritibia* and some specimens of *inaequivitta* from *Coenosia aurifacies*).

3(4). *Prst dc* very small, but little longer than the setulose hairs. Front femora with but one or two, seldom without any, outstanding *pv* subapical bristles. Lower calyptra well developed, strongly projecting beyond upper one. *Atherigona Rond.*, p. 97

4(3). 1+3 or 2 *dc* distinct and much longer than the setulose hairs of the thorax. Front femora with a complete series of *pv* bristles, or seldom without any distinct outstanding bristles, but then the lower calyptra hardly projecting beyond the upper one.

5(6). Hind tibiae with two *av* and two *ad* setae near middle. Mid-tibiae with a strong *av* seta (in the Ethiopian species). 1+3 *dc*. Two pairs of scutellar bristles. Outer vertical setae strongly developed. [*Schoenomyza*]

6(5). Hind tibiae with not more than one *av* (and one or two *ad*). Mid-tibiae without an *av* seta.

7(10). 1 + 2 strong *dc*; if with 1 + 3 (in *Anaphalantus* three *post* pairs present, but the first of them usually very small), then the front femora without any outstanding *pv* setae towards apex. Lower calyptra hardly projecting beyond upper one. Thorax with the humeri, pteropleura and two more or less conspicuous vittae shining black, abdomen black and shining, not or slightly dusted. Front tibiae with a *pv* bristle.

8(9). Scutellum with but one pair of strong setae. Face and antennae not longer than frons, the latter rounded in profile, hardly projecting beyond eyes. Front femora with a complete row of *pv* bristles, front tibiae of male not feathered. . . . . *Microcalyptra* Stein, p. 143

9(8). Scutellum with two pairs of setae. Face and antennae much longer than frons, the latter strongly projecting beyond eyes at base of antennae. Front femora without any *pv* setae, front tibiae of male feathered, those of female with a row of short spinose setulae on ventral surface. [*Anaphalantus* Loew]

10(7). 1+3 strong *dc*. Front femora with distinct *pv* setae up to apex. Thorax entirely covered by dust though the latter often forms darker vittae. Scutellum with two pairs of setae.

11(12). Hind tibiae with two *ad* and one *av* bristles, mid-tibiae with two *p* bristles. Frons strongly projecting beyond eyes in profile. Wings rather broad. Lower calyptra large, about twice as long as the upper one, strongly projecting beyond it. Abdomen very slender in male, depressed. Parafrontalia finely haired on anterior half. . *Andersonosia* nom. n. p. 143

12(11). Hind tibiae with one *ad* and with or (some males) without an *av* bristle (Fig. 64, p. 155). Frons hardly projecting beyond eyes. Wings narrower. . . . . *Coenosia* Meig. p. 145

13(2). Hind tibiae without an *av* but with one outstanding *a* and one *ad* bristle near middle (usually close to each other), without or with a *pd* seta (Figs. 65–67, p. 155). The *a* seldom missing, see note (2). *Caricea* R.-D. p. 154

14(1). Two pairs of reclinate orbital setae (Figs. 2, 3). Hind tibiae with one or two *pd* (except in *Spanochaeta* with only a single row of *acr*), though these may be small, never with an *a* and *ad* seta closely placed.

15(22). Scutellum with four strong bristles, the lateral pair as long as or longer than the first or second *post dc*. Hind tibiae with two strong or small *pd*, two strong *ad*, and one distinct *av*. Antennae, palpi, and legs never all entirely black.

16(17). Frontal triangle not passing middle of frons, the latter much longer than

wide and narrowed behind. Hind tibiae with two strong *pd*, front tibiae with a strong submedian *pv* bristle, mid-tibiae with two (always?) *pd* setae and without an *ad* seta. Arista long-plumose to middle. 1+3 *dc*, the other setulae in the *dc* line shorter than the *acr*, rarely another smaller *dc* in front of the *prst dc*. . . . *Pygophora* Schin., p. 242

17(16). Frontal triangle reaching anterior margin of frons, the latter not much longer than wide, usually subparallel (see Fig. 2). Hind tibiae with two usually rather small *pd* setae, front tibiae without a submedian bristle, mid-tibiae with one *pd*.

18(21). Costa reaching *m*. 2+3 *dc*, as a bristle in front of and rather close to the *prst dc* is longer than the *prst acr*.

19(20). Arista with rather long hairs up to tip, bare on ventral side in male[1]. *Pectiniseta* Stein, p. 243

20(19). Arista with more or less short hairs, or longer hairs only in basal half or third, the apical half bare[1] . . . . . *Lispocephala* Pok., p. 245

21(18). Costa reaching to just beyond r_{4+5}. 1+3 *dc*, the small setulae in the *dc* line slightly shorter than the *acr*. Arista short-haired from base to apex, the hairs shorter than the width of the third antennal joint. Lower calyptra not much longer than the upper one. *Brevicosta* Mall., p. 246

22(15). Scutellum with only the apical pair of setae distinct, the lateral pair missing or less than half as long as the first or second *post dc*. Arista short-plumose to almost bare, the hairs not longer than the third antennal joint wide.

23(26). Front tibiae without a submedian *pv* seta. Frons more or less rounded in profile, not or slightly protruding at base of antennae. Antennae, palpi, and legs yellow. Dorsum of thorax not shining, entirely dusted, not vittate. Arista not geniculate. Well developed *prst dc* and three strong *post dc* present.

24(25). One pair of *prst dc*. Hind tibiae with one small *pd* and one small and one long *ad* (and one small *av*) setae. Abdomen short. Frontal triangle reaching anterior margin (Fig. 2). Lower calyptra rather short. *Orchisia* Rond, p. 247

25(24). Two distinct pairs of *prst dc*, the anterior one much smaller. Hind tibiae without a *pd*, and with at most one *ad* (and one *av*) setae. *acr* very distinct, in one single row. Abdomen very elongate, yellowish translucent on first and second segments. Frontal triangle hardly reaching middle of front. Lower calyptra twice the length of the upper one. *Spanochaeta* Stein, p. 247

26(23). Front tibiae with a strong submedian *pv* seta. Frons protruding in profile above base of antennae, by the width of the third antennal joint or more (Fig. 3). Dorsum of thorax with a pair of broad dark vittae. Frontal triangle not passing middle of frons. Hind tibiae with one or two *pd* setae. . . . . *Amicitia* gen. n., p. 248

Atherigona Rond.

This genus, which is no doubt the most difficult one of the Coenosiinae, has three very well defined groups, the first two of which are recognised in the

[1] *Lispocephala australis* Mall. ♀ has a long-plumose arista and would run in this key to *Pectiniseta*. The male is unknown.

male sex among other characters, by the lack of the long-stalked *trifoliate process* of the superior forceps (Fig. 4A) which is invariably present in *Atherigona* s. str. In pinned specimens the process is sometimes exposed, and almost always part of the stalk is visible. After relaxing the specimen for one night the trifoliate process can usually be freed by bending the genitalia dorsalward with the point of a pin, while supporting the dorsum of the abdomen with the head of another pin. All the species which possess this process have modified

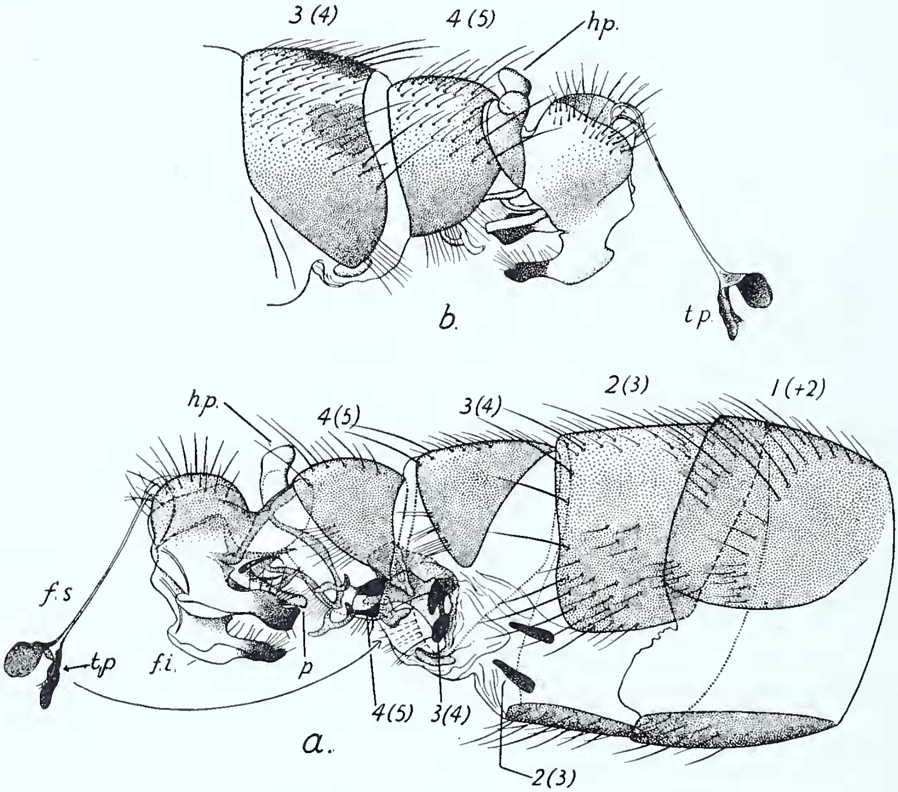
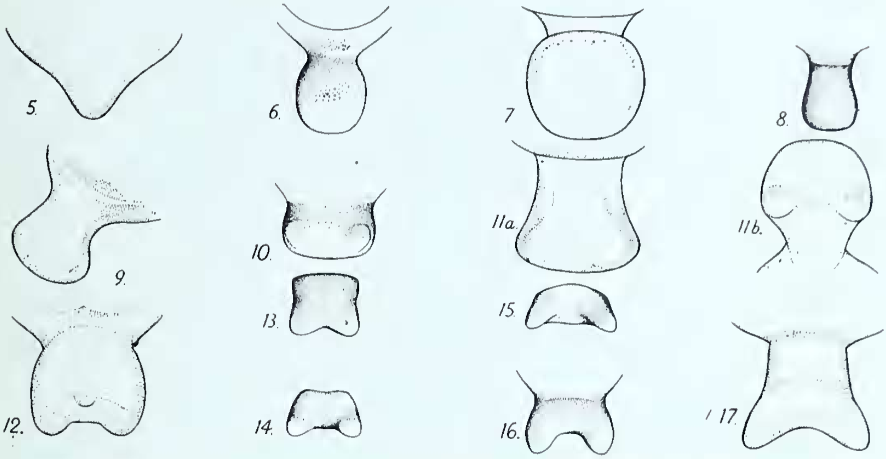
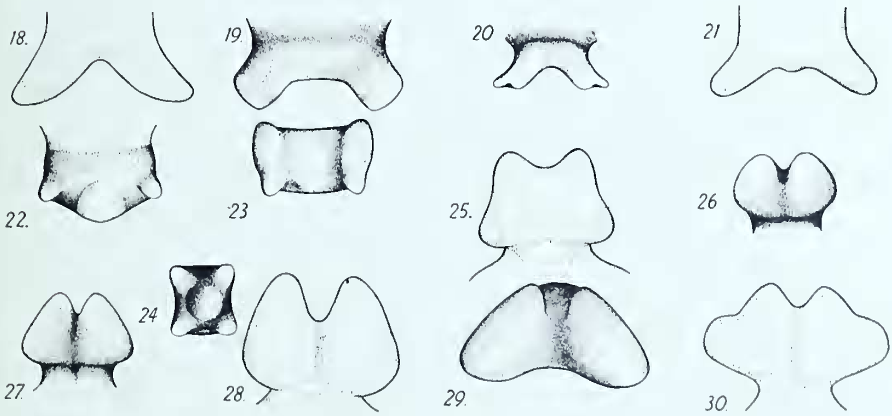


FIG. 4A.—Abdomen of *Atherigona trapezia* sp. n., extended; (*a*) oblique dorsal view, numbers indicate the tergites, (*hp*) hypopygial prominence, (*tp*) trifoliate process, —(*b*) oblique ventral view, numbers indicate the tergites and the ventrites referred to them, the arrow shows the pocket into which *tp* fits, (*fi*) forceps inferior, (*fs*) forceps superior, (*p*) penis, paramera blackened.

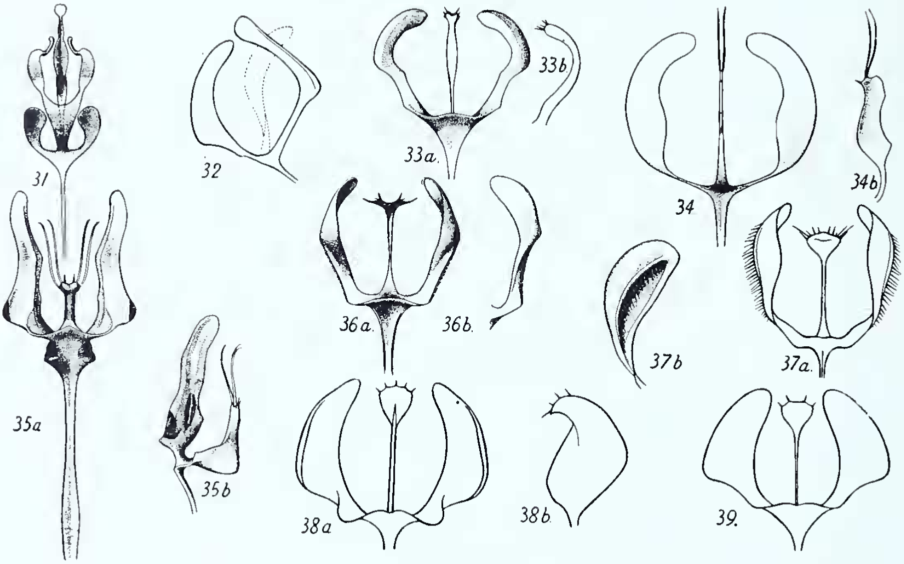
palpi in the male sex, as shown in Fig. 60, and most of them have, in the same sex, on the fifth abdominal tergite an unpaired knob-shaped, bi-lobed, bifurcate, or tridentate process, the *hypopygial prominence* (Fig. 4A), which is directed beneath and backward. Whereas the species of the *setifemur* and *excisa* groups are neither numerous nor very difficult to separate, those of *Atherigona* s. str.



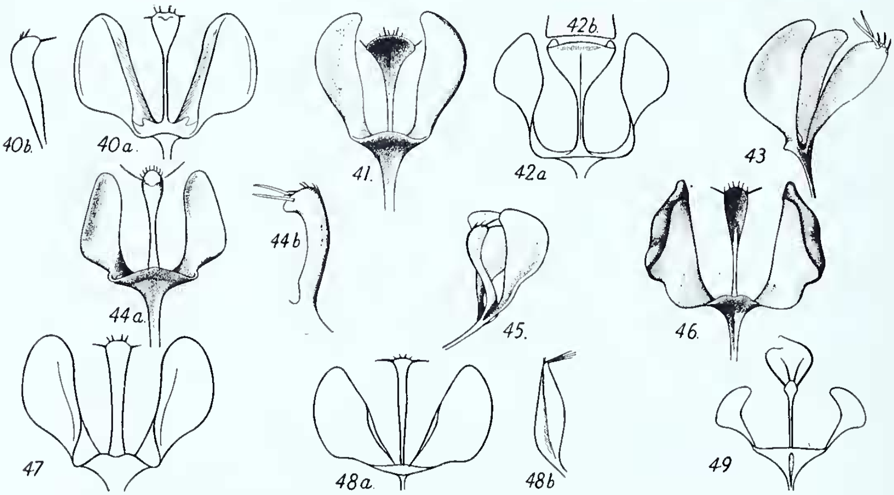
FIGS. 5–17. Hypopygial prominences of *Atherigona*, posterior view, unless otherwise stated. 5.—*conigera* sp. n. 6.—*laevigata* Loew, from Doukham, also for *bimaculata* Stein. 7.—*pedunculata* sp. n. 8.—*truncata* sp. n. 9.—*aurifacies* sp. n., oblique view in posterior and lateral direction. 10.—*binubila* sp. n., from Nairobi. 11.—*triangularis* sp. n. (*a*) posterior, (*b*) ventral view. 12.—*griseiventris* sp. n. 13.—*marginifolia*, ventral view. 14.—*ferruginea* sp. n., ventral view. 15.—*rubricornis* Stein, from Salisbury. 16.—*lineata* Ad., from Salisbury. 17.—*piceiventris* sp. n. (in the ventral views the anterior side, *i.e.* the side facing the genitalia, is above in the drawing).



FIGS. 18–30. Hypopygial prominences of *Atherigona*, Figs. 18–22 posterior, 23–30 ventral view. 18.—*lineata ugandae* ssp. n. 19.—*indica infuscata* ssp. n., from Bukalaca. 20.—*ruficornis* Stein, from Mabungo Camp. 21.—*tomentigera* sp. n. 22.—*tridentata* Mall. 23.—*budongoana* sp. n., from Budongo Forest. 24.—*aster* sp. n. 25.—*longifolia* sp. n. 26.—*perfida* Stein, from Butandiga-Bulambuli. 27.—*bedfordi* sp. n. 28.—*gilvifolia* sp. n., from Ibadan. 29.—*steeleae* sp. n., from Kilembe. 30.—*trapezia* sp. n., from Mt. Muhavura.

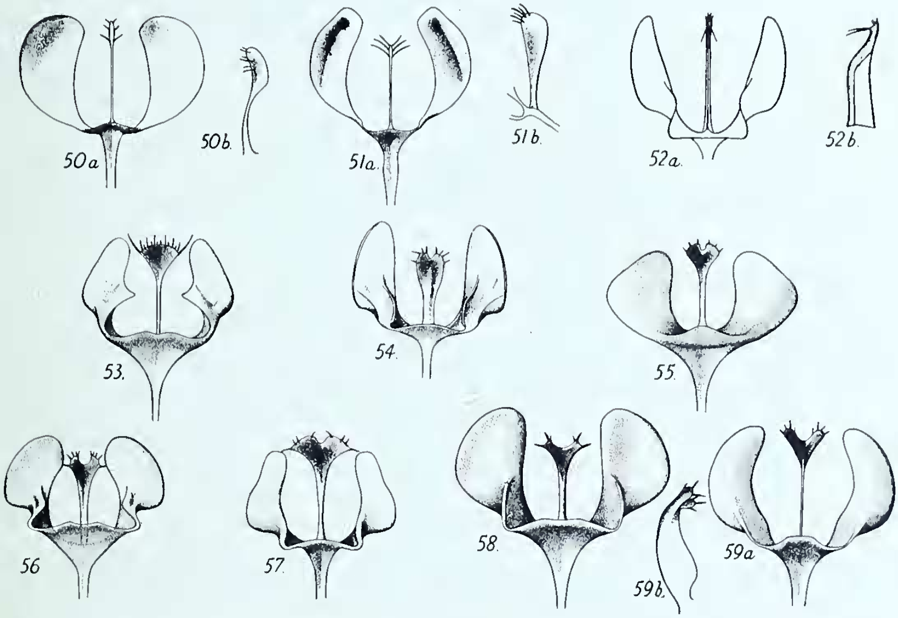


FIGS. 31–39. Trifoliate processes of *Atherigona*, ventral views, unless otherwise stated; in Figs. 33, 34, 35, 38, and 39 the lateral lobes are not drawn in natural, but in a plane position. 31.—*hancocki* sp. n. 32.—*longifolia* sp. n., lateral view. 33.—*binubila* sp. n., from Nairobi, (*b*) median lobe in lateral view. 34.—*bimaculata* Stein, from Silhouette, (*b*) median lobe in lateral view. 35.—*haplopyga* sp. n., (*b*) lateral view. 36.—*lineata* Ad., from Salisbury, (*b*) lateral lobe, interior surface in plane position. 37.—*tomentigera* sp. n., (*b*) lateral lobe, exterior surface in plane position. 38.—*griseiventris* sp. n., (*b*) median lobe in lateral view. 39.—*lineata ugandae* ssp. n.



FIGS. 40–49. Trifoliate processes of *Atherigona*, ventral views, unless otherwise stated, lateral lobes not drawn in natural but in a plane position. 40.—*aurifacies* sp. n., (*b*) median lobe in lateral view. 41.—*indica infuscata* ssp. n., from Bukalaca. 42.—*triangularis* sp. n., (*b*) front view of tip of median lobe. 43.—*tridentata* Mall. 44.—*marginifolia* sp. n., (*b*) median lobe in lateral view. 45.—*truncata* sp. n., lateral view. 46.—*aster* sp. n. 47.—*piceiventris* sp. n. 48.—*trapezia* sp. n., from Mt. Muhavura, (*b*) median lobe in lateral view. 49.—*pedunculata* sp. n.

are both to a very high degree. I assumed at first that the colours as well as the shape of the hypopygial prominence presented a considerable amount of variation. Finding, however, that in similar forms a certain type of hypopygial prominence was coupled with a certain type of coloration and moreover with a particular type of trifoliate process, I had to admit a great number of "species". Only a detailed study of material of a greater area will show to what extent these forms may eventually be regarded as subspecies. As far as my evidence



FIGS. 50–59. Trifoliate processes of *Atherigona*, ventral views, unless otherwise stated; lateral lobes not drawn in natural but in a plane position. 50.—*ruficornis* Stein, from Mabungo Camp, (*b*) median lobe in lateral view. 51.—*rubricornis* Stein, from Salisbury, (*b*) median lobe in lateral view. 52.—*gilvifolia* sp. n., from Ibadan, (*b*) median lobe in lateral view. 53.—*conigera* sp. n. 54.—*ferruginea* sp. n. 55.—*bedfordi* sp. n., from Shendi. 56.—*laevigata* Loew, from Doukham. 57.—*perfida* Stein, from Butandiga-Bulambuli. 58.—*steeleae* sp. n., from Kilembe. 59.—*budongoana* sp. n., from Budongo Forest, (*b*) median lobe in lateral view.

goes, certainly some of the species described in the present paper have a wide distribution and show no difference in the essential characters in such distant places as Nigeria and Uganda, or Morocco and Uganda, or Aden and Kenya.

Unfortunately, in the females of this genus, which are evidently more common than the males, no structural characters have been found either by previous authors or by myself, as far as *Atherigona* s. str. is concerned, whereas structural characters for the distinction of the females of the two other groups are

indicated in the key. In order to enable the females of *Atherigona* s. str. to be recognised as approximately as possible, colour-characters have largely been used in the remaining part of the key, as a separate means for the identification of the males is provided in Figs. 5–30 and 31–59, which represent the hypopygial prominences and trifoliate processes. This part of the key can only be regarded as preliminary to a more satisfactory one, based on structural characters of both sexes.

The biology of the species strongly confirms the validity of the groups founded on systematic characters. The larvae of the species of the *setifemur*-group evidently feed on decaying organic matter, e.g. horse-dung (*aberrans*) and "cocoon of *Oryctes*" (*pallidipes*). In the *excisa*-group various kinds of decaying fruits seem to be the main food, such diverse fruits being recorded on specimens in the B.M., Imperial Institute of Entomology, and in the literature, as banana, orange, cotton bolls, maize cobs, tomato and other species of *Solanum*, *Capsicum minimum*, peaches, pumpkin, marrow, melon, breadfruit, pepper, hog-plum (*Spondias*) and pawpaw (*Carica papaya*) for *excisa*, Tahitian chestnut (ivi = *Inocarpus edulis*) for *poecilopoda*, and *Elaeis guineensis* for *pallidipalpis*. The latter was originally bred from seed-potatoes. *A. excisa* has further been obtained from dura-stalks (*Andropogon sorghum*), Chinese Yam (*Dioscorea batatas*), sugar-cane (*Saccharum officinale*; "larva a scavenger in *Diatraea* tunnels"), kitchen-refuse, rotten fish, cow-dung, and human faeces. *A. integrifemur* was bred from bamboo, but will hardly attack the sound plant. Females of an undescribed species of this group have been "bred as parasites on dura-stemborer", and some of the labels on specimens of *A. excisa* express the opinion that the larvae have attacked the boll-worm (*Earias insulana* Boisd.), *Leucinodes orbonalis* Guen., *Nacoleia octasema* Myr. and other pests. The larvae may, as a whole, be scavengers and perhaps occasionally attack other insect larvae. They can, however, hardly be strictly carnivorous, as remarks by Cuthbertson (1936, Occas. pap. Rhodesian Mus. 5: 56) and Séguy (1937, Gen. Ins. 205: 224) would suggest. However this may be, the first two groups are either innocuous or more or less beneficial insects in the larval as well as in the adult stage.

The species of *Atherigona* s. str., on the other hand, are in the larval stage strictly phytophagous, as far as known, and often very noxious to cereal crops. This was first made known by Malloch (1923, Ann. Mag. nat. Hist. (9) 12: 177; 1925, Mem. Dept. Agric. India, Ent. Ser. 8: 111–122) and Ramachandra Rao (l.c. 123–125). The species 1–3 and 8–15 in Rao's list belong to *Atherigona* s. str. and are pests in various species of *Panicum*, *Setaria*, *Andropogon*, *Eriochloa*, *Pennisetum*, and *Paspalum*, as well as rice and wheat. As will be seen from the following descriptions, the larvae of the African species of this group attack mainly dura (*Andropogon sorghum*), berseem (*Trifolium alexandrinum*) and *Rawsonia*, the latter being the only non-gramineous plants apparently proved to be attacked by these flies. Cuthbertson (1936, Occas. pap. Rhodesian Mus.

5: 57) mentions Rhodes Grass (*Cloris gayana*) as being infested by larvae of an *Atherigona*.

With regard to the described species, mentioned in Séguy's work or published since, but omitted from the following key, nothing can be said about the position of *humeralis* Wied., *perpulchra* Bezzi (pedibus nigris, coxarum apice rufescente), *unicolor* Stein (legs entirely black), and *subnigripes* Karsch (apex of femora and all the tibiae and tarsi perfectly black). The following suggestions may be made on the remaining species:

divergens Stein 1913 = ? (*cinarina* Ség. 1938).

flavicoxa Stein 1913, ? near *bimaculata* Stein, but legs dark brown, except for knees and front coxae, which are reddish or yellowish.

immaculata Stein 1910[1] may from the description of the interfrontals be supposed to belong to the *excisa* group and may be related to rather similar females of an undescribed species from Sudan.

(*magnipalpis* Stein 1906) = *excisa* Thoms. 1868 (already stated by Bezzi, 1928, Dipt. Brachyc. Atheric. Fiji: 171).

nigripalpis Stein 1913, Ann. Mus. nat. Hungar. 11: 539) = *lineata* Ad. 1905, n. syn.

(*nigripes* Stein 1913, non 1900) = *tridentata* Mall. 1923, teste Mall. 1923, p. 192.

parvipuncta Stein 1913, ? near *ruficornis* Stein 1913.

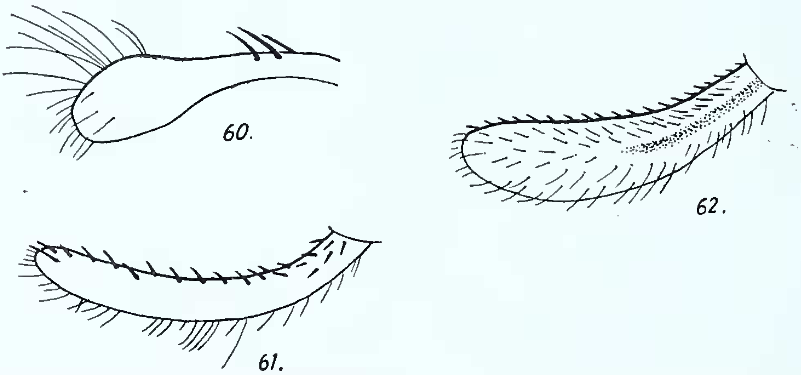
(*pharalis* Ség. 1938) = *ruficornis* Stein 1913, n. syn.

(*secrecauda* Ség. 1938) = *perfida* Stein 1913, n. syn.

Dr. Edwards's material does not contain any representatives of the first two groups, though four at least (*excisa*, *integrifemur*, *aberrans* and *setifemur*) occur in East Africa. All the new species except the first belong to *Atherigona* s. str. and present the following characters which are, therefore, not mentioned in the descriptions: palpi of the male dilated and soft-haired at apex, with about 3–4 strong, black setulae near base of dorso-exterior surface (Fig. 60), palpi of the female (Fig. 61) band-shaped, beset with fine, black, stubby setulae along dorsal edge (palpi not band-shaped in *A. haplopyga*), front femora with one (or two) *pv* preapical setae in both sexes (front femora missing in the type of *triangularis*), front tibiae without a submedian bristle, lateral sub-basal seta of scutellum of much less than a third the length of the lateral seta, unless

[1] or 1931? A note on the cover of the second half-volume of vol. 71 of the Denkschriften remarks that the papers in it have been obtainable through the book-sellers from 1907. This can obviously not be true for the part on Diptera which was presented for publication only in November 1909 and can thus hardly have appeared before 1910, the year which Séguy cites, even if this small part was issued separately at all before 1931. The Zoological Record reports on the paper in the latter year.

otherwise stated. In addition some other characters are common to or extremely similar in all these species, which nevertheless are mentioned in the descriptions, and other characters are described though they are expected to be liable to variation in a larger material. This is done in order to show which characters of the material studied have been checked in the single species described.



FIGS. 60–62. Left palpus of *Atherigona*, exterior view. 60.—*perfida* Stein, ♂. 61.—*perfida* Stein, ♀. 62.—*excisa* Thoms., ♀.

KEY TO THE ETHIOPIAN SPECIES OF ATHERIGONA

1(6). Lower *stpl* and *pv* preapical seta of front femora absent. Either the base of the hind femora with a short comb-like *pv* row of setulae (short and stubby in female, longer and more conspicuous in male), or *r-m* distinctly beyond middle of discal cell. Palpi of both sexes band-shaped and without stronger sub-basal setulae, fuscous. Front femora without a dorsal emargination near apex. Hypopygium of male without a prominence immediately behind hind margin of fourth segment and without a trifoliate process.

2(3). Hind femora with only the normal, short appressed hairs. *r-m* distinctly beyond middle (at about three fifths) of discal cell. Second abdominal tergite of male with a dense tuft of long, black, flexuous bristles on each anterior lateral angle, the tergite usually overlapping venter so far that the tufts appear to be situated on venter; fourth tergite (♂) with a long pale bristle on each side of disc, which extends forward along venter almost to base of abdomen. Discal cell (♂) rounded at outer lower angle, m_3+cu_1 not extending beyond the latter; both normal in female. Tibiae with the submedian setae minute. . . [*aberrans* Mall.]

3(2). Hind femora with a short row of black *pv* setulae at base, which are minute and stubby in female, but at least a third as long as the femoral diameter in male. *r-m* slightly anterior to middle of discal cell. Second abdominal tergite of male without tufts of long flexuous bristles, fourth tergite of male with only a few short black bristles. Discal cell normal, m_3+cu_1 continued to margin.

4(5). Hine trochanters without a short comb of black, spinulose setulae, the

femoral comb placed on a slight tubercle. Front and mid-tarsi without fine outstanding curled *av* and *pv* hairs. The normal submedian setae absent on all the tibiae. Fourth ventrite with two narrow processes which are pointed at tip, fringed below with short black setulae, and have each one short stout apical bristle. (♂; ♀ unknown).

[**tuberculata* Mall.]

5(4). Hind trochanters (♂; ♀?) with a short comb of black, spinulose setulae, similar to the femoral comb, the latter not on a tubercle. Front and mid-tarsi of male with fine outstanding curled *av* and *pv* hairs on first (fore tarsi) or first to third (mid-tarsi) joints, these hairs being most striking on mid-metatarsus. The submedian setae minute but present on hind tibiae (1 *pd*, 1 *ad*, 1 *av*), absent or present (1 *pd*) on mid-tibiae. Fourth ventrite (♂) with two palpiform processes which are rounded at tip and beset, on inner edge and apex, with unequal, dense, short, black setulae . . . . [*setifemur* Mall.]

6(1). Lower *stpl* and *pv* preapical seta of front femora always present. Base of hind femora without a short *pv* row of setulae.

7(12). Palpi of male band-shaped, of normal length and without sub-basal setae, of female long-clavate (Fig. 62). Scutellum, besides the two strong pairs of setae, with a distinct sub-basal lateral pair which is almost or fully half as long as the lateral setae. *r–m* at or beyond middle of discal cell. Abdomen rather broadly oval, in male without a hypopygial prominence and a trifoliate process. Front femora of male usually with a shallow excision before apex of dorsal surface and the apex beyond it beset with dense, short, black hairs. Interfrontalia strongly dilated anteriorly. (*Acritochaeta* Grimsh.)

8(9). R_5 very much narrowed at apex, section of costa between r_{4+5} and *m* not more than two-thirds as long as *m–m* in female (half as long as *m–m* in male), the apex of R_5 with a fuscous spot in male, but only with a shadow of it in female. Front tarsi of male with fine, outstanding wavy to curled *av* and *pv* hairs, the *av* ones being twice to thrice as long as the tarsal diameter and more numerous, especially on apical two or three joints. Pollinosity golden with three broad brown vittae on thorax, ground-colour yellowish-brown to brown. Interfrontalia orange-red. (Seychelles.) . . . . [*maculipennis* Stein]

9(8). R_5 slightly narrowed at apex, section of costa between r_{4+5} and *m* four-fifths to fully as long as *m–m*, the apex of R_5 hyaline in both sexes. Front tarsi of male without any hairs that are longer than the tarsal diameter.

10(11). Seldom up to 4 mm. long. Abdomen grey dusted, with well defined, paired more or less dark brown, roundish spots on the second to fourth segments. Pleurae, including mesopleura, piceous in ground-colour. Interfrontalia dull orange-red. *r–m* very distinctly beyond middle of discal cell. Front femora of male with the dorso-subapical excision present . . . . [*excisa* Thoms.]

11(10). 5–6 mm. Abdomen not distinctly dusted, without well defined spots except on fourth segment, but these elongate and not very dark. Pleurae mainly pale. Interfrontalia brownish-black. *r–m* at or slightly beyond middle of discal cell. Front femora of male without the dorso-subapical excision . . . . [*integrifemur* sp. n.], p. 111

12(7). Palpi of male shortened, dilated at apex and with several strong, black setulae near base of dorso-exterior surface (Fig. 56), of female band-shaped (Fig. 57), very seldom slightly subclavate. Scutellum with the lateral sub-basal seta inconspicuous or small, seldom up to one-third the length of the lateral seta. *r–m* well before middle of discal cell. Abdomen more slender, in male always with a trifoliate process and usually with a hypopygial prominence (see p. 98). Front femora never with a dorso-subapical excision. Interfrontalia parallel or slightly dilated anteriorly. (*Atherigona* s. str.).

13(20). Occiput rather black and glossy, sparsely dusted, up to the occipital setulae in dorsal half or third. Parafrontalia largely glossy and black. Hypopygial prominence of male absent or simple and knoblike.

14(15). Interfrontalia orange-yellow on front half or third. Third antennal joint (and face) very long, fully four times as long as wide. Palpi yellow. Pleurae and humeri entirely ferrugineous, lateral part of mesonotum usually ferrugineous, dorsum with one or three brown vittae or piceous with three more strongly shining vittae. Abdomen ferrugineous, the pattern piceous, consisting in male in a median dark brown spot on first segment, and a pair of spots on second and third segments, in female more extended, often most of dorsum entirely glossy black. Hypopygial prominence simple (Fig. 6), trifoliate process Fig. 56.
laevigata Loew, p. 113

15(14). Interfrontalia black. Third antennal joint of moderate length, up to about thrice as long as wide, antennae entirely fuscous, except for base of arista.

16(17). Four propleural setae which are inserted on a strong, knobshaped prominence. Pleurae dark, even in male. Fourth abdominal segment with a pair of dark spots and a pair of strong marginal setae, hypopygial prominence absent. Second and third abdominal segments each with a pair of piceous spots, infuscate and pruinose around and between them, third segment without a piceous lateral streak. Wings hyaline. Third antennal joint broad. (Fig. 31) . . . *hancocki* sp. n., p. 113

17(16). Three propleural setae which are inserted on a much weaker prominence. Pleurae pale in male, variable in female. Palpi fuscous.

18(19). Larger: 4–5 mm. Fourth abdominal segment (♂) uniformly pale, with a number of setulose hairs, hypopygial prominence absent. Second and third abdominal segments entirely piceous on dorsum, except for the margins. r_{4+5} and *m* slightly sinuate and infuscate at apex. Third antennal joint much broader in male. Lateral vitta of thorax broad, median vitta narrow. (Fig. 35*a*, *b*) . . . *haplopyga* sp. n., p. 114

19(18). Smaller: 3–4 mm. Fourth abdominal segment (♂) with a pair of black spots and a pair of rather strong marginal setae, hypopygial prominence present (as Fig. 6). Second and third abdominal segments each with a pair of piceous spots that is usually distinctly separated on median line, third segment of male in addition with a lateral piceous longitudinal streak. r_{4+5} and *m* straight at apex, not infuscate, wings hyaline in female, with two brownish spots in male : one around *h*, the second before apex of r_1. Third antennal joint subequal in both sexes, about thrice as long as wide. (Fig. 34*a*, *b*) . . . *bimaculata* Stein, p. 116

20(13). Exterior part of occiput as densely dusted in upper half as the temples along

the eyes, parafrontalia usually mainly dull and dusted. Hypopygial prominence of male always present and usually truncate, emarginate, bifurcate, or tridentate, seldom simple, knoblike.

21(42). Interfrontalia yellow, at least on anterior half or third. First and second antennal joints ferruginous, third joint usually fuscous in female, with the base narrowly ferruginous, variable in male.

22(37). Interfrontalia yellow, at most the borders somewhat infuscate near base.

23(36). Palpi yellow (♂ ♀).

24(33). Front legs entirely pale or only the tibiae and tarsi more or less piceous (*rubricornis*).

25(28). Third antennal joint of male fuscous except for a narrow basal part. Female either almost entirely ferruginous to testaceous, or with the femora infuscate or piceous in at least apical third (and then not falling in this group).

26(27). Mesonotum pale in front of suture, except for one or three narrow brown vittae, scutellum wholly or largely pale. Hypopygial prominence Fig. 14, trifoliate process (Fig. 54) with piceous-black lobes, the lateral ones with a blunt tooth interiorly, median one clavate in lateral view. Thorax and abdomen of female ferruginous to testaceous, except for the vitta on thorax and a V-shaped spot at apex of fourth abdominal segment . . . . [*ferruginea* sp. n. ♂ ♀], p. 116

27(26). Mesonotum largely piceous, even in front of suture, where only the humeri and a lateral stripe to the outer side of the *prst* seta are pale. Hypopygial prominence as Fig. 24; trifoliate process (Fig. 46) with hyaline lateral lobes with a brown seam, median lobe gradually and slightly narrowed from middle to apex in lateral view. (Female with the front femora partly dark.) . . . . . [*aster* sp. n. ♂], p. 117

28(25). Third antennal joint of male mainly ferruginous. Mesonotum and usually the pleurae piceous to black in ground-colour, abdomen testaceous, the first segment unspotted, some of the others with pairs of small, dark spots, but without a V-shaped pattern at apex.

29(30). Hypopygial prominence as Fig. 5. Trifoliate process (Fig. 53) yellow, with the apices piceous, the lateral lobes each with a yellow, conical prominence on interior side. Third antennal joint with the dorsal edge and the apex conspicuously piceous. Wings hyaline. *conigera* sp. n., p. 118

30(29). Hypopygial prominence larger, notched or emarginate at apex. Trifoliate process purplish-black, lateral lobes with the interior margin simple. Third antennal joint in male with the dorsal edge or apex infuscate but not piceous.

31(32). ♂: apex of wings hyaline. Antennae entirely ferruginous, at most the extreme apex somewhat infuscate. Hypopygial prominence Fig. 15; trifoliate process Fig. 51. (♀ unknown) . . [*rubricornis* Stein]

32(31). ♂. Apex of wings narrowly infuscate along costa from middle of R_3 to *m*. Antennae ferruginous, with the dorsal margin infuscate. Hypopygial prominence Fig. 27, trifoliate process Fig. 55 . [*bedfordi* sp. n.] p. 121

33(24). Front femora piceous or infuscate on at least apical third.

34(35). Female with at most the apical half of the front femora piceous, front tibiae only infuscate. (Male with wholly pale legs.)

The paired, roundish spots of the abdomen brownish and not very conspicuous. . . . . [*aster* sp. n. ♀], p. 117

35(34). Front femora of both sexes piceous in about apical half or more, front tibiae largely piceous. Hypopygial prominence Fig. 20, trifoliate process Fig. 50a, b. Third antennal joint ferruginous in male, with the dorsal edge concolorous (or narrowly infuscate: *pharalis* Ség.). *ruficornis* Stein, p. 121

36(23). Palpi fuscous. (♀; ♂ unknown) . . . [sp. indet. Chyulu Hills]

37(22). Interfrontalia yellow on anterior half or third, dark brown or black in at least basal half. Palpi yellow.

38(39). Third antennal joint of male fuscous (except no doubt for a narrow basal part). Apical fourth of front femora in male (two-thirds[1] or more in female) piceous, front tibiae, except for basal fourth, piceous. Abdomen in male with a pair of dark spots on second and third segments, in female testaceous with a pair of small, round spots on third and a more or less indistinct one on fourth and, sometimes, second segments. (♂ not seen.) . . . . [*valida* Ad.]

39(38). Third antennal joint of male ferruginous with the apex or dorsal margin more or less infuscate. Abdomen of female (that of *tomentigera* unknown) more greyish on dorsum, more conspicuously dusted, with the spots of the fourth segment more or less oblong.

40(41). ♂. Front femora and tibiae largely piceous, except for the base (and a narrow apical ring of the femora). Third antennal joint at least two and a half times as long as wide. Pleurae blackish. Fourth abdominal segment with a pair of small round piceous spots. Hypopygial prominence Fig. 21, trifoliate process (Fig. 37a, b) purplish-black. *tomentigera* sp. n., p. 121

41(40). ♂. Front femora and tibiae entirely pale. Third antennal joint extremely broad, twice as long as broad. Pleurae ferruginous. Fourth abdominal segment unspotted. Hypopygial prominence Fig. 13, lateral lobes of the trifoliate process (Fig. 44a, b) largely pale brown, apical and outer margins with a piceous border . [*marginifolia* sp. n.], p. 122

42(21). Interfrontalia entirely dark brown to black, sometimes suffusedly dull reddish on anterior quarter.

43(64). Palpi yellow.

44(45). Hypopygial prominence of male distinctly tridentate, the lateral teeth being twice as long as the median one. Front femora and tibiae infuscate at apex. Humeri probably blackish in ground-colour. Mesonotum without evident vittae. Second abdominal segment with two large round blackish spots. ♀ unknown. . . . . [**cinarina* Ség.]

45(44). Hypopygial prominence either knoblike or truncate or more or less bi-lobed or bifurcate, never tridentate.

46(47). Hypopygial prominence strongly bifurcate (Fig. 19). Humeri black or grey in ground-colour. Front femora of male with the apical third or half piceous. Mesonotum without distinct vittae. (♀ with the palpi fuscous, see par. 72) (Fig. 41) . . [*indica infuscata* ssp. n.], p. 123

47(46). Hypopygial prominence of male knoblike, truncate or bi-lobed. Humeri more or less yellow in ground-colour.

48(55). Hypopygial prominence of male bi-lobed (Figs. 26–30). Pleurae dark, at least in female. Fourth abdominal segment of male entirely pale.

[1] At most the apical third of the femora somewhat infuscate even in female, dorsum largely ferrugineous: see remarks on *A. laevigata*, p. 113.

49(50). Front femora of male with the apical third strongly infuscate. Lateral lobes of trifoliate process (Fig. 52a, b) ferruginous with whitish base, median lobe testaceous, with a hyaline blade towards body. Larger species, 4–5 mm. (Fig. 28). . . . . . *gilvifolia* sp. n., p. 125

50(49). Front femora of male entirely yellow, or, at most, slightly brownish along dorsum of apical part. Lateral lobes of trifoliate process black, much broader, median lobe styliform or compressed, but without a hyaline blade.

51(54). Smaller species, 2·5–4·6 mm. Hypopygial prominence (Figs. 26, 30) slightly bi-lobed in posterior view. Front tibiae of male usually infuscate at apex. Second antennal joint usually more or less infuscate or fuscous. Thorax usually with three narrow brown vittae. Pleurae dark in both sexes.

52(53). First abdominal segment entirely ferruginous or slightly brownish in middle or with a piceous spot of moderate size, *i.e.* confined to the median third or half, spots of the other segments small to moderate. Basal joints of antennae ferruginous in ground-colour, but infuscated on disc. Hypopygial prominence Fig. 26, median lobe of trifoliate process (Fig. 57) clavate and incurved at apex in lateral view, slightly compressed elsewhere. Slightly smaller. . . *perfida* Stein, p. 126

53(52). First abdominal segment broadly piceous, the outer margin of this dark pattern approaches the side-margin of the segment and reaches or surpasses the level of the outer margin of the dark pattern on the second segment, spots of the other segments large. Basal joints of antennae fuscous. Hypopygial prominence Fig. 30, median lobe of trifoliate process (Fig. 48a, b) attenuated to apex in lateral view, not incurved, more strongly compressed. Slightly larger . . *trapezia* sp. n., p. 127

54(51). Larger species, 4·2–5·5 mm. Hypopygial prominence (Fig. 29) subcordiform in posterior view. Front tibiae of male entirely pale. Second antennal joint ferruginous. Thorax usually without distinct vittae. Pleurae dark in female, mainly pale in male (Fig. 58) . . *steeleae* sp. n., p. 129

55(48). Hypopygial prominence truncate, with the angles somewhat produced, or knoblike.

56(57). Small species, ♂ 3 mm. Apical third to half of front femora piceous in male. Median lobe of trifoliate process (Fig. 32) filiform with the apex by no means dilated in ventral view. Parafrontalia entirely dusted. Wings quite hyaline. Pleurae dark. Hypopygial prominence Fig. 25.
longifolia sp. n., p. 130

57(56). Larger species, 3·8–4·8 mm. Front femora of male entirely pale (*triangularis*?). Median lobe of trifoliate process more or less dilated at apex in ventral view, lateral lobes broad, subtriangular or suboval, at least in apical half.

58(59). Parafrontalia entirely dusted. Wings quite hyaline. Hypopygial prominence Fig. 23, trifoliate process Fig. 59. Pleurae pale in male, hardly infuscate in female. Thorax usually with three faint, narrow, brown vittae, which do not reach scutellum. Fourth abdominal segment of male unspotted. . . . . . . *budongoana* sp. n., p. 131

59(58). Parafrontalia largely black and glossy. Hypopygial prominence more or less knoblike.

60(61). First abdominal segment entirely pale. Thorax without distinct vittae.

Apex of r_{4+5} and *m* not infuscate. Upper prostigmatal minute. ♂. Pleurae pale. Fourth abdominal segment with a pair of small piceous spots. Hypopygial prominence Fig. 8, trifoliate process Fig. 45. [*truncata* sp. n], p. 133

61(60). First abdominal segment with a conspicuous piceous spot. Thorax with at least a distinct, brown median vitta. Apex of r_{4+5} and *m* narrowly infuscate (in male).

62(63). Upper prostigmatal conspicuous. Pleurae largely pale in male. Fourth abdominal segment unspotted. Thorax with a pair of faint, linear sublateral vittae and a not very narrow median vitta which reaches *prsc* but not scutellum. Hypopygial prominence Fig. 7, trifoliate process Fig. 49, median lobe slightly broader and gradually widened in a hardly appreciable measure in lateral view. *pedunculata* sp. n., p. 134

63(62). Upper prostigmatal minute. Pleurae dark in male. Fourth abdominal segment with a pair of piceous spots. Thorax with a single, rather dark, median vitta which dilates towards scutellum and reaches apex of the latter, occupying most of the width of its disc. Hypopygial prominence Fig. 11, trifoliate process Fig. 42a, b. *triangularis* sp. n., p. 135

64(43). Palpi fuscous, or mainly fuscous with the apex somewhat ochraceous or whitish.

65(78). Parafrontalia entirely dusted, at most with small glossy points at the base of the setae.

66(73). First abdominal segment entirely pale or only with some brownish shadows in both sexes.

67(68). Hypopygial prominence rather large, knobshaped (Fig. 9). Parafacialia golden dusted, distinctly wider below than the base of the arista. Humeri pale. Median lobe of trifoliate process (Fig. 40a, b), in lateral view, hardly broader at apex than in middle . . *aurifacies* sp. n., p. 136

68(67). Hypopygial prominence small, bifurcate, the two branches slender and simple. Parafacialia silver-dusted, as wide below as the base of arista. Humeri often more or less dark. Median lobe of trifoliate process filiform in lateral view, more or less finely clavate at apex.

69(70). Apical two-fifths of front femora infuscate on outer surface in male, apical joints of the mid and hind tarsi black in female. Lateral lobes of trifoliate process (Fig. 36) on a long testaceous stalk which is longer than the lobe. Hypopygial prominence Fig. 16 . [*lineata lineata* Ad.]

70(69). Front femora of male entirely pale, apical joints of the mid and hind tarsi more or less infuscate in female. Lateral lobes of the trifoliate process on a short stalk which is hardly more than half as long as the lobe.

71(72). Both sexes with fuscous palpi. Abdominal spots of female roundish, small and ill defined or more or less reduced. (Figs. 18, 39.) *lineata ugandae* ssp. n., p. 137

72(71). (Male with yellow palpi, see par. 40.) Abdominal spots of female oblong-quadrate, rather large, piceous, and sharply defined. [*indica infuscata*, sp. n. ♀], p. 123

73(64). First abdominal segment with a piceous spot. Thorax with three distinct brown vittae. Hypopygial prominence simply transverse-knobshaped or emarginate at apex, with two small and blunt lobes, transverse and more or less bean-shaped in vertical view.

74(75). Lower *stpl* as far from the posterior as from the anterior one. Second and

third abdominal segments testaceous, greyish in places, densely yellowish dusted and with a brown median vitta and a pair of piceous spots, which are inverted-triangular on both segments (♀) or on second (♂). Wings of male with two smoky suffusions beyond *h* and apex of *sc*. Hypopygial prominence Fig. 10, trifoliate process Fig. 33a, b.
. [*binubila* sp. n.], p. 138

75(74). Lower *stpl* slightly closer to the posterior than to the anterior one. Second and third abdominal segments more largely piceous and dark grey, the spots elongate-quadrate. Wings unspotted. Hypopygial prominence conspicuously emarginate, lateral lobes of trifoliate process much shorter.

76(77). Piceous spots of second abdominal segment fused and occupying the entire width of the segment, except for narrow side-margins, at most with some very faint dust in a tongue along median line, abdomen glossy with distinctly reddish-testaceous ground-colour. Median lobe of trifoliate process (Fig. 47) very slightly compressed. Smaller: 2·5–3·8 mm. (Fig. 17) . . . . *piceiventris* sp. n., p. 139

77(76). Piceous spots of second abdominal segment separated on median line by a broad, more or less bi-lobed tongue of very conspicuous grey dust or of ground-colour, abdomen strongly dusted and the ground-colour usually more or less greyish, especially on middle and on anterior parts of sides. Median lobe of trifoliate process very strongly compressed (Fig. 38 a, b). Larger: 4–5 mm. (Fig. 12). . . . . *griseiventris* sp. n., p. 140

78(65). Parafrontalia not dusted, but black and glossy, except near base of antennae.

79(80). Two or three propleural setae, which are inserted on a slight prominence. Propleurae and humeri entirely testaceous to ferrugineous. Thorax densely yellowish-grey dusted, the pale parts golden dusted, one or three vittae distinct. Hypopygial prominence with three minute teeth or as Fig. 22, trifoliate process Fig. 43. . *tridentata* Mall., p. 142

80(79). Four propleural setae, which are inserted on a conspicuous, knobshaped prominence.[1] Propleural depression and humeri rufo-piceous to black, the humeri sometimes partly yellowish. Second and third abdominal segments almost entirely, front femora entirely piceous.
hancocki sp. n., ♀, p. 113

[Atherigona integrifemur sp. n. ♂ ♀]

Length 5·0–5·7 mm.; *of wings* 4·6–5·2 mm.

♂. *Head* testaceous below and in front, fuscous on occiput and frons, densely pale grey dusted, except on median dorsal part of occiput, which is fuscous, and interfrontalia which are dull brownish-black. Interfrontalia rather strongly widened in front, parafrontalia with 4–5 inclinate setae (the second or second and third small), two more inclinate small setae on uppermost part of parafacialia, level with the second antennal joint. Inner vertical very strong,

[1] *A. nigrithorax* Stein from Togo must be very similar to the female of *hancocki*, but it may be expected to have only two or three propleurals on a slight prominence. The third abdominal segment is ferruginous with a pair of black, round spots and an indistinct median vitta, the front femora are only infuscate at the apex, etc.

outer vertical, postverticals and ocellars rather long. Antennae fuscous, third joint thrice as long as wide, arista very short-pubescent but more conspicuously so than usual in the genus. Palpi fuscous, band-shaped, somewhat excavate along interior surface, apex densely beset with short, fine, erect, yellow hairs, base without setae. Jowls slightly narrower at the narrowest point than the parafrontalia in middle.

Thorax testaceous, the dorsum, excluding the humeri, piceous, the ptero-, sterno-, hypo- and metapleura and the metaphragma more or less brownish, the pale parts golden-dusted, the dark ones grey-dusted, mesonotum with three rather conspicuous, not very narrow vittae, scutellum suffusedly brown. *prst acr* in 5–6 rows, the last *prst* pair not distinctly stronger, the *prsc* well developed, 2 + 3—4 *dc*, only the last two strong; scutellum with the lateral sub-basal seta almost half as long as the lateral one, the latter and apical setae subequal. Three propleural setae, one of them minute, the other two rather strong, upper prostigmatal rather well developed. *stpl* in a triangle, the posterior side of which is considerably shorter and which bears some rather strong setulae, lower *stpl* much weaker than the two others which are subequal.

Abdomen short and robust, brownish-testaceous with some brownish shadows on posterior segments, third tergite meeting on venter with its margins raised along median line, the first three segments with some rather strong marginal setae towards sides. Hypopygial prominence and trifoliate process absent.

Legs testaceous, front femora infuscate on more than apical half, front tibiae, except basal third, and hind tarsi, except apical joint, piceous, front tarsi and basal two joints and bases of the next two joints of mid-tarsi also piceous, the apices of the basal two joints of mid-tarsi narrowly paler, hind tibiae slightly infuscate. Front femora with two strong *pv* preapical setae, front tibiae unarmed in middle, mid-tibiae with a moderate submedian *pd* seta (and on one side an abnormal *av*), hind tibiae with moderate *ad*, *av* and *pd* setae, the latter two on the same level.

Wings hyaline, veins brown with testaceous base, r_{4+5} and *m* conspicuously converging though straight near apex; *r–m* at middle of discal cell. Calyptrae hyaline with pale-yellow border. Halteres yellowish-white.

♀ very similar to male, third antennal joint narrower, more than thrice as long as wide, palpi elongate-subclavate, without yellow hair but with minute black setulae, abdomen longer, more depressed, pointed at apex, the hind margin of the segments and a pair of elongate, oblique spots on the fourth segment brownish. Front femora piceous except for the basal quarter to sixth. *r–m* at or slightly beyond middle.

KENYA: Limuro, vi. 1937, bred ex Bamboo (*Van Someren*) ♂ type 4 ♀ paratypes (2 ♀ paratypes returned to Coryndon Memorial Museum).

Atherigona laevigata Loew

Uganda: Ruwenzori, Kilembe, 4500 ft. (*F.W.E.*) 1 ♀; typical locality: Portug. East Africa: Inhambane.

In B.M. from Abyssinia. Tanganyika: Tanga (*J. Ogilvie, Miss A. Mackie*); Portug. East Africa: Beira (*Miss A. Mackie*); Kenya (from Coryndon Mem. Mus.): Naivasha, Ngong and Nairobi, in Coryndon Mem. Mus. from Rabai and Chyulu Hills; seen from S. Rhodesia: Salisbury (*A. Cuthbertson*).

The female specimen from the Seychelles, identified by Stein as *scutellaris* Stein (1910, Trans. Linn. Soc. Lond., Ser. 2, Zool., 14: 158), has the lateral parts of the occiput dusted, it traces near *valida* in the key. The specimen is quite similar to *ferruginea* m., but the interfrontalia are black on posterior two thirds, and the two parts of the V-shaped spot on the fourth abdominal segment do not meet at apex. No males are available caught together with females of this kind, but it is probable that they are aberrant *laevigata*.

Atherigona hancocki sp. n. ♂ ♀

Length 3·5 mm.; *of wings* 3 mm.

Head: black, jowls and parafacialia yellowish, occiput sparsely dusted and glossy on dorsal half, parafrontalia not dusted, glossy, except at anterior end, parafacialia, jowls and temples whitish-grey dusted. Interfrontalia dull black, parallel, parafrontalia with 5 inclinate frontal setae. Outer vertical shorter than inner one though very distinct, post-verticals and ocellars well developed. Antennae fuscous, with the arista rufous at base, third antennal joint very broad, two and a quarter times as long as wide. Palpi brown at base, yellow on apical three fifths. Jowls as wide as the parafrontalia in middle.

Thorax: piceous-black, with the humeri and anterior part of the pleurae ferruginous, greyish dusted, with three narrow brown vittae. *acr* in four rows on presutural part of mesonotum. The four propleural setae on a strong, knob-like prominence. Three *stpl* in an equilateral triangle, the lower one weaker, the posterior one stronger than the others.

Abdomen: First segment testaceous, infuscate on centre of dorsum, second segment piceous on dorsum and rather densely dusted, with three elongate darker spots, which almost reach hind margin, third and fourth segments each with a pair of small piceous spots and a pair of moderate hind marginal bristles, the dorsum of the third segment somewhat infuscate and rather densely dusted. Hypopygial prominence absent. In this species the "trifoliate" process (Fig. 31) has actually five narrow lobes, the median lobe very long and filiform, strongly curved, thinner before apex and ending in a little knob, which is perfectly bare, the lateral lobes small, lineiform in lateral view, club-shaped in ventral view, less than half as long as the median lobe; at their base originates another

deeply bifurcate lobe, the branches of which are filiform near base, then slightly dilated (in ventral view) and suddenly narrowed and strongly incurved, so that they almost meet the apical part of the median lobe.

Legs: testaceous, with the front femora, tibiae (except knees), and tarsi fuscous; mid and hind tarsi fuscous. Mid-tibiae with a *pd*, hind tibiae with an *ad*, *av* and *pd* setae, the latter not much beyond the *av*, all these setae very small.

Wings hyaline, with testaceous veins. *r–m* on second fifth of discal cell, *m* and r_{4+5} slightly converging at apex. Halteres and calyptrae whitish.

♀. Occiput densely dusted on most of lateral parts, third antennal joint thrice as long as wide. Anterior part of the pleurae, except for the prominence bearing the propleural setae, and humeri piceous to black, seldom the humeri more or less yellowish, the lateral vittae broader than the median one. Dorsum of abdominal segments almost entirely piceous with very narrow pale hind margins and slightly broader lateral margins of the segments, and a V-shaped pattern on middle of third and fourth segments, which is formed by denser grey dust and sometimes even pale ground-colour, and which reaches hind-margin with its pointed end. Front legs piceous, except for the knees, hind femora often and sometimes even mid-femora more or less infuscate, hind tibiae strongly infuscate, mid and hind tarsi piceous.

UGANDA: Kampala, 18.iv.1926 (*G. L. R. Hancock*) ♂ type; Ruwenzori, Kilembe, 4500 ft. (*F.W.E.*) 4 ♀ paratypes. KENYA: Nairobi, vii.1930 (*Van Someren*) 2 ♀ paratypes; Naivasha, vi.1936 and vii.1937 (*H. J. A. Turner*) 2 ♀ paratypes; Ngong v.1936 (*Miss M. Steele*) 1 ♀ paratype (3 paratypes returned to Coryndon Memorial Museum).

Atherigona haplopyga sp. n. ♂ ♀

Length 4·2–5 mm.; *of wings* 3·8–4·7 mm.

♂. *Head* black, parafacialia, jowls and lower part of the occiput yellowish, occiput sparsely dusted and glossy on more than dorsal half, parafrontalia not dusted, glossy, except at anterior end, parafacialia, jowls, temples, and lower part of occiput whitish-grey dusted. Interfrontalia dull, black, parallel or very slightly widened anteriorly, parafrontalia with five or four inclinate frontals. Outer vertical much shorter than the inner one, though very distinct, post-verticals and ocellars well developed. Antennae fuscous with the arista ferruginous at base, the third antennal joint about twice and two thirds as long as wide. Palpi brown. Jowls slightly wider than the parafrontalia in middle.

Thorax piceous-black on dorsum, including scutellum, the humeri and pleurae rufo-testaceous, densely golden dusted, the dorsum grey dusted with a narrow median and a pair of rather broad sublateral vittae of brown dust, the latter reaching from the outer row of *acr* almost to the *ia* and from the neck to

the apex of scutellum, occupying almost the lateral thirds of the latter. *prst acr* in four to five rows, one pair of distinct *prsc*, 1+2 *dc*, only the last two pairs strong, scutellum with the lateral setae slightly shorter than the apical pair. The three propleural setae on a moderate prominence. *stpl* in an almost equilateral triangle, the lower one much weaker, the upper one somewhat stronger than the anterior one.

Abdomen: first segment testaceous, the posterior half of dorsum and a median vitta, reaching base, piceous; second segment entirely piceous, except for a narrow, pale-yellow posterior border, which widens and turns ferruginous towards venter, taking up almost half of the length on middle of lateral surface; third segment piceous, with a deep median longitudinal impression (normal?) and a rufous spot on either side of hind margin, the first to third segments with a few moderate marginal setae towards sides; fourth segment uniformly ferrugineous, with a number of fine, setulose hairs, but without setae, hypopygial prominence absent. Genitalia translucent testaceous with large deep-black plates. Trifoliate process (Fig. 35*a* and *b*) with the median lobe black, rectangularly bent, rather short, its basal part triangularly narrowed from base to apex in ventral view, subtriangularly dilated from base to apex in lateral view, the apical part (at right angles to the basal part and almost parallel to the lateral lobes) rod-shaped, slightly tapering, with two long white hairs on either side of apex, lateral lobes hyaline yellowish, with a black point at exterior basal angle and a short black streak just inward of it, longer than median lobe, and twice as long as the apical part of the latter, rather slender and gradually tapering, the apex rather narrowly rounded.

Legs testaceous, with the apex of the front femora, the greater apical half of the front tibiae, and the whole of the front tarsi piceous, the hind tarsi slightly infuscate. Mid-tibiae with a small *pd*, hind tibiae with moderate *ad*, *av* and *pd* setae, the latter not much beyond the *av*.

Wings hyaline, the veins testaceous, but brownish towards margin, r_{4+5} extremely narrowly bordered with fuscous and slightly sinuate towards apex; *r–m* on second fifth of discal cell. Calyptrae yellowish, slightly smoky, halteres yellowish.

♀ similar to male, but the antennae more than thrice as long as wide, pleurae sometimes strongly infuscate, abdomen rufo-testaceous, the first segment with a rather broad piceous median vitta, the second to fourth segments entirely piceous on dorsum, except for more or less broad lateral margins, and on the third segment, a narrow posterior margin. In specimens with dark pleurae the first abdominal segment is mainly piceous on dorsum. Front femora at apex, front and hind tibiae and tarsi, and mid-tarsi piceous to blackish. In the female from Sudan the lateral vittae of the mesonotum are absent, whereas the median vitta is well developed.

UGANDA: Ruwenzori, Kilembe, 4500 ft. (*F.W.E.*) ♂ type 5 ♀ paratypes;

SUDAN: Loti, in banana-clearing near stream, 19.xi.1933 (*Miss M. Steele*), ♀ paratype.

Atherigona bimaculata Stein.

UGANDA: Ruwenzori: Kilembe, 4500 ft. (*F.W.E.*) 1 ♂ 1 ♀; Kyarumba, 4500 ft. (*D. R. Buxton*) 1 ♀; typical localities: SEYCHELLES: Silhouette and Mahé (both in B.M.).

The discovery of this species on the African continent is rather unexpected. The specimens are in no way distinguishable from the nine typical specimens in the B.M., the trifoliate processes of the males being also alike (Fig. 36*a*, *b*), and striking in their narrow lateral lobes.

[**Atherigona ferruginea** sp. n. ♀ ♂]

Length 3·5 mm.; *of wings* 3·2 mm.

♀. *Head* testaceous with the upper half of occiput and the mentum dark brown, parafrontalia (except for a small spot around the insertion of each seta), face, parafacialia, jowls, temples and occiput (the latter except for the usual median dorsal band) densely whitish dusted, the dust almost absent on a line along the occipital setulae. Interfrontalia dull testaceous, somewhat widened in front; parafrontalia rather broad, as wide as interfrontalia in front and in middle, with 4–5 inclinate frontal setae. Outer vertical distinctly weaker than the inner one, postverticals and ocellars not very strong. Antennae ferruginous, the third joint fuscous from base of arista to apex, four times as long as wide, last joint of arista infuscate. Palpi yellow. Jowls as wide as the parafrontalia in middle.

Thorax ferruginous, slightly paler on pleurae, with a narrow brown median stripe on anterior half, thin white dust between the *dc* rows, shining on lateral dorsal part, and with thin golden dust on pleurae, scutellum with a narrow pale median vitta. *acr* in 4–5 rows, a small pair of *prsc*, 2 + 2 *dc*, only the last two pairs strong, scutellum with the lateral setae slightly weaker than the apical pair. Two propleural setae, the lower one very small. *stpl* in an equilateral triangle, which is practically bare of any hairs, the lower seta slightly weaker and the posterior slightly stronger than the anterior one.

Abdomen yellowish-ferruginous, with a slight brownish shadow on centre of first segment, some irregular brownish shadows on second, a pair of brownish spots on third and a dark brown V- or horseshoe-shaped spot on apex of fourth segment. This spot is open anteriorly, and its lateral parts reach almost to the basal two fifths of the segment. Dorsum depressed, hairs black and small, the marginal ones somewhat stronger, especially at sides, but no distinct setae present.

Legs testaceous with the front tibiae and tarsi infuscate. Mid-tibiae with a small *pd*, hind tibiae with moderate *ad*, *av* and *pd* setae, the latter two on the same level.

Wings hyaline, the veins pale testaceous, r_{4+5} slightly converging with *m* at apex, though the last section of the latter is straight. *r–m* just beyond basal third of discal cell. Calyptrae yellowish-hyaline, halteres pale yellowish.

SUDAN: Shambat, 30.xii.1930, on berseem (*Trifolium alexandrinum*) (*H. W. Bedford*) ♀ type.

A male with the same data probably belongs to this species. The parafrontalia and lateral parts of occiput are entirely dusted. Third antennal joint not quite thrice as long as wide. Palpi yellow. Thorax infuscate from suture to base of scutellum, with three narrow vittae in front of suture, the lateral ones not very distinct and abbreviated in front. Lower *stpl* very weak. Second abdominal segment and base of third infuscate (normal?, these segments are somewhat greasy), each with a pair of round piceous spots, the first three segments with some moderate marginal setae towards sides, fourth segment entirely testaceous, without distinct setae though with setulose hairs. Hypopygial prominence (Fig. 14) stalked though rather small, broadly trapezoidal in outline, resulting from two fused subtriangular knobs. Trifoliate process (Fig. 54) with the stalk fuscous at base, whitish-hyaline at apex up to the base of the lobes, the latter piceous-black, median lobe rather short, strongly club-shaped in ventral view, with the normal minute black setulae at apex, incurved and somewhat clavate in lateral view, lateral lobes suboval with the exterior and interior margins rather straight, the base strongly emarginate exteriorly and with a blunt tooth interiorly.

[**Atherigona aster** sp. n. ♂ ♀]

Length 3·3–4·4 mm.; *of wings* 3·3–4·0 mm.

♂. *Head* testaceous, the occiput fuscous except beneath, frontal triangle and posterior part of parafrontalia fuscous, median dorsal part of occiput glossy, interfrontalia dull testaceous, sometimes ferruginous near base, rest of head densely dusted, the pruinosity whitish-grey on the dark and pale-golden on the pale parts. Interfrontalia slightly broadened anteriorly, parafrontalia with four inclinate setae, the first of them weak. Inner vertical rather strong, outer vertical much weaker, postverticals and ocellars well developed. Antennae ferruginous, third joint fuscous except for a narrow basal part, two and a half times as long as wide; arista fuscous, its basal two joints lighter brown. Palpi yellow. Jowls distinctly wider than parafrontalia in middle.

Thorax piceous on dorsum including scutellum, the part to the outer side of the *ph* and *prst* setae and the whole of the pleurae testaceous, golden dusted, dorsum yellowish-grey dusted, without vittae. *prst.acr* in 4–5 rows, the last

prst pair distinctly longer, a pair of small *prsc*, 2+4 *dc*, the two *prst* ones rather distinct, but only the last two pairs strong; scutellum with the lateral seta slightly shorter than the apical one. A strong and a rather small and sometimes a minute propleural seta. *stpl* in an almost equilateral triangle which bears 1–2 minute hairs, lower *stpl* rather weak, the posterior one slightly longer than the anterior *stpl*.

Abdomen ferruginous with base and apex testaceous, densely yellowish-grey dusted on dorsum, first and fourth segments unspotted, second with a pair of large, oblong, piceous spots, third with a pair of very small, round, dark brown spots; marginal setae fine though distinct on lateral parts of first to third segments. Hypopygial prominence (Fig. 24) formed by a blunt central tubercle and four more sharply defined tubercles in the corners of a quadrate around it, thus reminding of a simple star. Trifoliate process (Fig. 46) with the stalk pale brown, the base of the median lobe and most of the lateral lobes hyaline, and the rest of the median lobe, which is gradually clavate in ventral view, but curved and band-shaped, and slightly narrowed from middle to apex in lateral view, brown. The lateral lobes semicircular with the straight margin interiorly and a strong emargination at basal third of exterior margin, the latter dark brown from the emargination to the apex and somewhat twisted.

Legs wholly pale testaceous. Mid-tibiae with a small *pd* seta, hind tibiae with small *ad*, *av* and *pd* setae, the latter considerably beyond the *av*.

Wings hyaline, veins testaceous, r_{4+5} and *m* slightly converging at apex, *r–m* slightly before two fifths of discal cell. Calyptrae yellowish-greyish-hyaline, slightly smoky towards margins. Halteres yellowish-white.

♀ similar to male. Pollinosity of head whitish, third antennal joint thrice as long as wide. The dorsum of the thorax less broadly yellowish on sides, though the humeri, propleurae and anterior part of mesopleurae are always testaceous and golden dusted, pleurae elsewhere more or less infuscate. Abdomen testaceous with irregular brownish-testaceous shadows, the third and often second and fourth segments with a pair of rounded, brownish, not very conspicuous spots.

KENYA: Naivasha, vii.1937 (*H. J. A. Turner*) ♂ type 2 ♂ 6 ♀ paratypes. (1 ♂ 3 ♀ returned to Coryndon Memorial Museum.)

Though the male characters are very distinctive, the female is extremely similar to that of *ruficornis*, and it is very doubtful whether the females of these two species can always be distinguished. Three female specimens from the same locality have the characters of *ruficornis* and have had, therefore, thus to be identified.

Atherigona conigera sp. n. ♂ ♀

Length 3–3·8 mm.; *of wings* 2·8–3·6 mm.

♂. *Head* fuscous behind, translucent-yellowish above, in front and below,

densely yellowish-grey dusted, the median dorsal part of occiput glossy fuscous, interfrontalia orange-yellow, parafrontalia, parafacialia, and jowls pale yellow-dusted. Interfrontalia slightly widened anteriorly, parafrontalia with four inclinate frontal setae. Outer verticals slightly weaker than the inner verticals, the latter not very strong, postverticals and ocellars rather weak. Antennae ferruginous, the third joint not quite thrice as long as wide, its dorsal margin and apex rather narrowly piceous, arista fuscous. Palpi yellow. Jowls slightly wider than parafrontalia in middle.

Thorax piceous, humeral callus and propleura yellow, densely yellowish-grey dusted, without any traces of vittae. *prst acr* in four rows, the last *prst* pair hardly longer, a pair of small *prsc*, 2+4 *dc*, of which only the last two pairs are well developed; scutellum with the lateral and apical setae equal, moderately strong. One strong and one fine propleural seta. *stpl* in a triangle, which bears a few single minute hairs, and the posterior side of which is shorter, the lower *stpl* weak, the posterior one slightly stronger than the anterior one.

Abdomen ferruginous, the second segment with a pair of elongate and the third with a pair of small, round piceous spots, which on both segments approach but do not reach the hind margin, fourth segment ferruginous with a pair of punctiform brown shadows on disc; marginal setae rather fine on segments 1–3, very fine but distinct on fourth. Hypopygial prominence (Fig. 5) small, simple, bluntly conical, longitudinally compressed, a deeply impressed area above it. Trifoliate process (Fig. 53) brownish-yellow, the apices and the apical half of outer margins of the lateral lobes suffusedly piceous, the apex of the median lobe very narrowly infuscate, median lobe lineiform with the apex triangular in ventral view, slightly compressed, narrowly band-shaped with the apex hardly broader in lateral view, lateral lobes with their stalk broadly winged, these wings fused near base, lobes oblong, with a broad, shallow emargination on exterior margin near base and a tooth-shaped process on interior margin almost in middle.

Legs testaceous, the basal two joints of the front tarsi infuscate, the apex of the front tibiae very slightly infuscate. Mid-tibiae with a small *pd*, hind tibiae with small *ad*, *av* and *pd* setae, the latter considerably beyond the *av*.

Wings hyaline, veins testaceous, r_{4+5} and *m* slightly converging at apex, *r–m* at two fifths of the discal cell. Calyptrae whitish-hyaline at base, slightly smoky in apical half, border yellowish-white, the lower calyptra much projecting. Halteres yellowish-white.

♀ similar to ♂, pollinosity of head more whitish, thorax with slight traces of three vittae, two odd *prsc acr* present, first abdominal segment with a brownish spot on median line, second and third with an incomplete brown median vitta, second to fourth with a pair of roundish-triangular, not very large but very conspicuous, dark brown spots, the apical half of the front femora (except knees) and front tibiae as well as the front tarsi piceous.

KENYA: Chania Falls, 4000 ft., x.1934 (*F.W.E.*) ♂ type. W. ADEN PROTECTORATE: Jebel Jihaf, ca. 7100 ft., x.1937 (B.M. Exp. S.W. Arabia, *H. Scott* and *E. B. Britton*), 1 ♂ paratype, 2 ♀ paratypes. The Aden male is almost identical with the type, the spots of the second abdominal segment are, however, more roundish, the impression above the hypopygial prominence is strongly transverse (in the type slightly transverse, more subcircular), the median lobe of the trifoliate process is slightly more clavate in lateral view, and even the basal joint of the front tarsi is hardly infuscate.

[**Atherigona bedfordi** sp. n. ♂ ♀]

Length 3·3–4 mm.; *of wings* 3–3·3 mm.

♂. *Head* testaceous, occiput and haustellum fuscous, head densely yellowish-grey dusted, except for the interfrontalia, mouthparts and the dorsal median part of the occiput. Interfrontalia dull, testaceous, usually somewhat widening anteriorly, parafrontalia almost as wide or even slightly wider than interfrontalia, except behind, with (3—) 4—5 (—6) inclinate and one reclinate frontal setae. Outer vertical much shorter than the inner one, though very distinct, postverticals and ocellars well developed. Antennae ferruginous, with the dorsal edge of the third joint slightly and the apical half of the arista rather strongly infuscate, third joint thrice as long as wide. Palpi yellow. Jowls slightly narrower at the narrowest point than the parafrontalia in middle.

Thorax piceous-black, including scutellum, densely whitish-grey dusted, the humeri and propleurae testaceous, the pleurae sometimes only infuscate. *prst acr* in 4–5 rows, the last pair slightly stronger, the *prsc* pair still stronger, 2+3–4 *dc*, only the last two pairs strong, the others, however, rather distinct; scutellum with the lateral seta almost equal to the apical one. Two propleural setae, the lower one small to moderate. *stpl* in an equilateral triangle, which is entirely or practically bare of hairs, lower seta weaker, the posterior one stronger than the anterior one.

Abdomen testaceous, rather densely greyish dusted, somewhat rufescent on the dorsum of the second and third segments, which present a pair of round piceous spots each (the spots on the third segment forming a dark-dusted part of a larger blackish spot, which is otherwise covered by pale dusting), the first three segments with some rather strong marginal setae towards sides, the fourth uniformly testaceous, with fine bristly hairs. Hypopygial prominence (Fig. 27) stout, truncate and notched at apex, the two apical knobs depressed and subtriangular. Trifoliate process (Fig. 55) with the base whitish, the lobes purplish-black, the outer lobes broad, subsinuate at margin, the median lobe filiform with strongly clavate apex.

Legs entirely testaceous. Mid-tibiae with a small *pd*, hind tibiae with moderate *ad*, *av* and *pd* setae, the latter two on the same level.

Wings hyaline, the apex narrowly infuscate from the middle of R_3 to *m*, veins testaceous, r_{4+5} and *m* very distinctly converging though straight at apex; *r–m* between two fifths and one half of the discal cell. Calyptrae whitish, halteres pale yellowish.

♀. Similar to male. Third antennal joint fuscous, except at base, more than thrice as long as wide. Thorax much paler; the pleurae ferruginous, the dorsum brownish under the dusting, lateral parts of the mesonotum and the scutellum yellowish. Anterior pairs of *dc* very distinct. Abdomen pale testaceous, with a pair of round brown or piceous spots on the dorsum of segments 2–4 or 3 only. No distinct marginal setae present. Front tarsi brownish. r_{4+5} and *m* hardly converging, *r–m* on two-fifths or even slightly basad.

SUDAN: Shendi, 14.xi.1928, bred on dura (*Andropogon sorghum*) (*A. H. Husein*) ♂ type; paratypes: Shambat, 30.xii.1930 1 ♀, 5.i.1929 1 ♀, 11.xii.1926 3 ♂, 15.ii.1926 2 ♂, on berseem (*Trifolium alexandrinum*) (*H. W. Bedford*); Khartoum, 14.ii.1926 on cotton (*Gossypium herbaceum*) (*H. W. Bedford*) 1 ♂, 4.i.1931, bred in laboratory from berseem (*H. W. Bedford*), 1 ♀.

Atherigona ruficornis Stein

UGANDA: Kigezi District, Mabungo Camp, 6000 ft., 18.xi.1934 (*J. Ford*), 2 ♂ 4 ♀; Mt. Muhavura, 7000 ft., 29.ix.1934 (*F.W.E.*), 2 ♀; Typical localities: S. RHODESIA: Salisbury, and ABYSSINIA: Diredaua.

In B.M. from UGANDA: Jinja, 19.viii.1930, and Katosi, on debris at edge of lake, 20.ix.1936 (*E. G. Gibbins*); KENYA: Kabete, xii.1925, in house (*G. B. Purvis*); ZANZIBAR; ABYSSINIA: Maraquo and Doukham. Seen from Rabai and Naivasha in KENYA.

In the specimens from Mabungo Camp the interfrontalia are suffusedly blackish along the margins near ocellar triangle; in two females, however, they are evenly brown on posterior two-thirds, and in these two specimens the abdomen is distinctly darker with the ground-colour grey on middle of segments and laterally on anterior parts. In the single female from Doukham (Abyssinia), the margins of the interfrontalia are very narrowly blackish behind, but the humeri are grey, hardly paler on dorsum than the mesonotum.

Atherigona tomentigera sp. n. ♂

Length 3·1 mm.; *of wings* 2·9 mm.

♂. *Head* fuscous behind, testaceous in front and below, densely greyish dusted, the dust more whitish dorsally, yellowish-grey behind and golden in front and below, median dorsal part of occiput glossy fuscous, interfrontalia dark brown with the anterior third yellowish-orange. Interfrontalia very slightly widened anteriorly, parafrontalia with four inclinate frontal setae. Outer vertical much weaker than inner vertical, the latter not very strong,

postverticals and ocellars rather weak. Antennae ferruginous, third joint two and a half times as long as wide, its dorsal margin narrowly infuscate near apex; arista rufous in basal half, fuscous in apical half. Palpi yellow. Jowls as wide as parafrontalia in middle.

Thorax piceous, humeral callus and propleura yellow, densely yellowish-grey dusted with three very faint brownish vittae on dorsum. *prst acr* in four rows with one or two additional setulae on median line, the last *prst* pair hardly longer, a pair of small *prsc*, of the 2+4–5 *dc* only the last two are well developed; scutellum with the lateral pair hardly weaker than the apical pair, moderately strong. Two rather strong and a minute propleural setae. *stpl* in a triangle which bears a few single hairs, and the posterior side of which is shorter, the lower *stpl* weak, the posterior one distinctly stronger than the anterior one though not longer.

Abdomen testaceous, the apex ferruginous, densely yellowish-grey dusted on dorsum, first segment with a suffused piceous spot in middle, second with a pair of round piceous spots on posterior half, which are connected along front margin with a narrow brown median vitta by an arcuate brown line, third and fourth segments each with a pair of round piceous spots (very small on fourth segment); marginal setae rather fine on all segments. Hypopygial prominence (Fig. 21) broad, bifurcate, the branches slender and rounded at apex, broadly separated by a slight tubercle. Trifoliate process (Fig. 37*a*, *b*) purplish-black, median lobe gradually but strongly incurved, compressed and gradually slightly clavate in lateral view, lineiform with the apex strongly clavate in ventral view, lateral lobes oblong-oval with the interior margin rather straight, the interior third of the outer surface covered with minute, dense, white hairs.

Legs yellow, front femora, except for the basal quarter and the knees, front tibiae, except for base, and front tarsi piceous. Mid-tibiae with a small *pd* seta, hind tibiae with small *ad*, *av* and *pd* setae, the latter slightly beyond the *ad*.

Wings hyaline, veins testaceous, r_{4+5} and *m* conspicuously converging at apex, *r–m* slightly before two-fifths of the discal cell. Calyptrae hyaline, the apical half of the lower calyptra yellowish-smoky, border yellowish-white. Halteres pale yellow.

UGANDA: Kigezi District, Mabungo Camp, 6000 ft., 18.xi.1934 (*J. Ford*), ♂ type.

[**Atherigona marginifolia** sp. n. ♂ ♀]

Length 2·8–3·3 mm.; *of wings* 2·7–2·9 mm.

♂. *Head* blackish or fuscous on frons and occiput, except most of parafrontalia, anterior third of interfrontalia and ventral third of occiput which are yellowish, as are the ventral and anterior surfaces of head. Interfrontalia subparallel, very slightly widened anteriorly, parafrontalia with four inclinate frontal setae. Outer vertical much weaker than the inner one though quite

strong, postverticals moderate, ocellars rather strong. Antennae ferruginous, the third joint extremely broad, twice as long as broad beyond middle, the apical half of the dorsal edge and the apex fuscous, arista fuscous. Palpi yellow. Jowls slightly wider than the parafrontalia in middle.

Thorax piceous on dorsum, humeri and pleurae yellowish, yellowish-grey dusted on dorsum, golden dusted on pleurae, without any vittae. *prst acr* in four rows, two additional setulae on median line, the last *prst* pair distinctly longer, a distinct pair of *prsc*, 2+3*dc* of which only the last two pairs are strong, the two *prst* pairs, however, quite distinct; scutellum with the lateral pair slightly weaker than the apical pair. Two propleurals, the lower one moderate, the upper prostigmatal stronger than usual, as long as the lower propleural. *stpl* in an almost equilateral triangle (the posterior side slightly shorter), which bears one or two minute hairs, lower *stpl* considerably weaker than the two others.

Abdomen ferruginous with the base testaceous, rather densely yellowish-grey dusted, the first segment unspotted, the second and third each with an oblong piceous spot of moderate size, fourth segment unspotted; marginal setae rather strong on segments 1–3, fine though distinct on fourth. Hypopygial prominence (Fig. 13) small, subtruncate; subtrapezoidal, almost quadrate in vertical view, with the angles slightly protruding. Trifoliate process (Fig. 44, *a*, *b*), pale brown, median lobe darker brown, lateral lobes with the outer and apical borders piceous; median lobe filiform with the apex somewhat club-shaped in ventral view, rod-shaped with the apex suddenly dilated into a small hook in lateral view, lateral lobes bean-shaped, separated on exterior margin from the basal support by a strong emargination.

Legs wholly testaceous, only the front tarsi infuscate. Mid-tibiae with a small *pd*, hind tibiae with moderate *ad*, *av* and *pd* setae, the latter slightly beyond the *av*.

Wings hyaline, the veins testaceous, r_{4+5} and *m* straight near apex and very slightly converging, *r–m* slightly before two-fifths of the discal cell. Calyptrae yellowish-hyaline, the border pale yellowish. Halteres pale yellow.

♀ with the pleurae more or less largely infuscate, the upper prostigmatal seta small, second abdominal segment with two indefinite, large brownish spots, third and fourth each with a rather small oval spot, front femora and tibiae almost entirely piceous, all the tarsi strongly infuscate.

UGANDA: Busana, 22.x.1933 (*T. W. Chorley*), ♂ type, 1 ♂ paratype, 3 ♀ paratypes.

[**Atherigona indica infuscata** ssp. n. ♂ ♀]

Length 3·2–3·8 mm.; *of wings* 3·2–3·5 mm.

♂. *Head* fuscous behind, pale yellowish on parafacialia, jowls and lower part of occiput, densely whitish-grey dusted, except on median dorsal part of

occiput and interfrontalia. The latter dark brown, dull, almost parallel, slightly widened at front end; parafrontalia with 4–6 inclinate frontal setae. Outer vertical distinctly weaker than inner one, postverticals and ocellars well developed. Antennae fuscous, third joint about two and a half times as long as wide, the base of the arista reddish. Palpi yellow, with the base brown. Jowls approximately as wide as the parafrontalia.

Thorax piceous, humeri grey, propleurae slightly paler, densely yellowish-grey dusted. *prst acr* in four rows with one or two odd setulae on the median line towards suture, the last *prst* pair slightly stronger, a distinct pair of *prsc*. 2+3–5 *dc*, only the last two pairs strong, the two *prst* pairs rather distinct; scutellum with the lateral and apical pairs equal and not very long. Three (to four) propleural setae, two of them quite strong. *stpl* in an equilateral triangle, which contains one or two setulae, lower *stpl* much weaker than the two others.

Abdomen testaceous, the first segment with two large pale brown spots and a pale brown median vitta which extends over the next two segments, the second with a pair of elongate piceous spots which do not quite reach the hind margin, the third with a pair of smaller elongate spots, the fourth with a pair of round, small, brown spots, dorsum of abdomen rather densely yellowish dusted. The lateral marginal setae rather distinct on the first three segments, hardly distinct on the fourth. Hypopygial prominence (Fig. 19) broad, strongly bifurcate, the branches broadly separated, short, truncate and subemarginate at apex. Trifoliate process (Fig. 41) with the stalk and basal supports of the lobes fuscous, the lobes piceous, median lobe filiform in basal half, subtriangularly dilated with the apex rounded in apical half (ventral view), strongly incurved and slightly club-shaped in lateral view, lateral lobes dull, finely rugose in longitudinal direction, elongate-halfmoon-shaped, the outer margin broadly emarginate in basal half, the inner margin almost straight, very slightly emarginate towards apex, the latter narrowly rounded.

Legs testaceous, the apical third or half of the front femora (except knees), the apical half of the front tibiae, and the front tarsi rather strongly infuscate. Mid-tibiae with a small *pd*, hind tibiae with moderate *ad*, *av* and *pd* setae, one beyond the other.

Wings hyaline, the veins testaceous, r_{4+5} and *m* distinctly converging though not curved at apex, *r–m* just beyond second fifth of discal cell. Calyptrae hyaline, pale-yellowish, halteres whitish.

♀ similar to male. Third antennal joint fully thrice as long as wide. Palpi fuscous. The second to fourth abdominal segments each with a pair of elongate piceous spots, which do not touch the hind margins and are of similar elongate trapezoidal shape, but decreasing size. The rows of marginal setae rather distinct. Front femora with the apical two thirds piceous (except for the knees), front tibiae piceous with the base narrowly pale, front tarsi piceous, the other tarsi and hind tibiae infuscate.

Uganda: Bukalaca, xi.1929, larva in leaf-bud of *Andropogon sorghum* (*H. Hargreaves*), ♂ type (in B.M.) and 1 ♂ paratype (returned), 1 ♀ paratype (in B.M.); Morocco: Fez, x.1938, 15.xii.1938, 22.ii.1938, from *Andropogon sorghum saccharatum* (*C. A. Bléton*), 2 ♂ 3 ♀ paratypes. The Moroccan specimens of this species were originally identified as *A. soccata* Rond., though the palpi of the female are yellow in this species according to Rondani's description. Only later was it recognised that these specimens are conspecific and, in fact, entirely identical with the Uganda form bred from the same plant.

Though this form would not trace to *indica* Mall. in Malloch's key to the Indian species (1925, Mem. Dept. Agric. India, Ent. Ser. 8: 119) nor *indica* to this species in the present key, it will nevertheless only be a subspecies of it. In *indica* the front femora are entirely pale without any trace of an infuscation in male, and with only the apical half infuscated in female, the front tibiae not distinctly infuscated at apex in male, infuscated but not piceous in female, the interfrontalia rufous-brown. The abdominal spots are smaller in *indica*, and the first segment is entirely pale. The hypopygial prominence and the trifoliate process are, however, identical in both forms, the median lobe of the trifoliate process is in both forms filiform in basal half. In Malloch's figure the basal half is hidden, and only the dilated apical half can be seen; a study of Malloch's types in the B.M. reveals, however, that the process of *indica* s. str. is quite as shown in Fig. 41. The biology of *infuscata* was described under the name of *indica* Mall. by Harris (1935, Rept. Dept. Agric. Tanganyika 1934: 84).

Atherigona gilvifolia sp. n. ♂ ♀

Length 3·8–4·7 mm.; *of wings* 3·5–4·2 mm.

♂. *Head* fuscous behind, yellowish in front and below, densely grey dusted with the parafacialia yellowish-grey dusted and the median dorsal part of occiput glossy fuscous. Interfrontalia dull fuscous, subparallel, parafrontalia with 4–5 inclinate frontal setae. Outer vertical considerably weaker than inner vertical though quite strong, postverticals and ocellars rather strong. Antennae with the first and second joints ferruginous, the third fuscous except on base which is narrowly ferruginous, somewhat more widely so on ventral side, almost two and a half times as long as wide, arista fuscous with the base narrowly ferruginous. Palpi yellow. Jowls not wider than the parafrontalia in middle.

Thorax piceous with the humeri and propleurae yellowish, densely grey dusted, on dorsum more yellowish-grey dusted, no distinct vittae. *prst acr* in 4–5 rows, the last *prst* pair slightly stronger, a pair of distinct *prsc*, 2+4–5 *dc*, the *prst* pairs comparatively strong, the last two pairs strong; scutellum with the lateral sub-basal setae approximately a third as long as the lateral ones, the apical ones not longer than the latter. Two strong and one small propleural

setae. *stpl* in an almost equilateral triangle, which bears a few fine setulae, the lower *stpl* much weaker than the two others which are subequal.

Abdomen testaceous, yellowish dusted, slightly infuscate on dorsum of first and second segments, with a pair of oblong-oval piceous spots on second and of small round spots on third segment, fourth segment unspotted. Hypopygial prominence (Fig. 28) stout, short, shortly bi-lobed at apex, the lobes short, oval, somewhat depressed. Trifoliate process (Fig. 52 *a*, *b*) whitish at base (the stalk however largely black), the lateral lobes ferruginous except for the whitish base, rather elongate, strongly emarginate at base exteriorly, median lobe styliform (in lateral view) with a hyaline blade on dorsal side, which is much broader than the lobe itself, and which connects the recurved, blackish apex with the stalk, the apex with two or three small black setulae, in ventral view the median lobe is quite lineiform.

Legs testaceous, the apex of the front femora and the greater apical part of the front tibiae as well as the basal 3–4 joints of the front tarsi infuscate. Mid-tibiae with a small *pd*, hind tibiae with moderate *ad*, *av* and *pd* setae, the latter slightly beyond the *av*.

Wings hyaline, the veins testaceous, r_{4+5} and *m* straight and very slightly converging at apex, *r–m* slightly beyond two-fifths of discal cell. Calyptrae whitish-hyaline, the border slightly yellowish, halteres pale yellowish.

♀ similar to male. Parafacialia with whitish dust. Antennae almost thrice as long as wide. Palpi fuscous at base, ferruginous in apical two-thirds. Abdomen testaceous with some brownish shadows on first and especially second segments, the third and fourth each with a pair of oblong piceous spots, those of the fourth segment much smaller. Front femora, tibiae and tarsi almost entirely blackish, hind tarsi strongly, hind tibiae and mid-tarsi slightly infuscate. *r–m* at two-fifths of discal cell.

NIGERIA: Ibadan, 19.x.1935, ♂ type, 14.x.1935 1 ♀ paratype (*F. D. Golding*); UGANDA: Ruwenzori, Kilembe, 4500 ft. (*F.W.E.*), 1 ♂ paratype, 3 ♀. Except for their size these latter females might as well belong to *steeleae*.

Atherigona perfida Stein

n. syn. *secrecauda* Ség., 1938, Miss. scient. Omo, 4 Zool.: 372.

UGANDA: Mt. Elgon, between Butandiga and Bulambuli, 8000 ft., 7.viii. 1934 (*J. Ford*), 19 ♂, 61 ♀; Butandiga, 7000 ft., sweeping short grass, 5–6.viii. 1934 (*J. Ford*), 6 ♀; Kigezi District, Mabungo Camp, 6000 ft., 18.xi.1934 (*J. Ford*), 18 ♂, 22 ♀; Mt. Muhavura, 7000 ft., 29.ix.1934 (*F.W.E.*), 1 ♂, 2 ♀; Ruwenzori, Namwamba Valley, 6500 ft. (*F.W.E.*), 1 ♂; Entebbe, 13.xii.1934 (*F.W.E.*), 1 ♂. KENYA: Aberdare Range, Mt. Kinangop, 9000 ft., 1.xi.1934 (*F.W.E*), 1 ♂; 9000 ft., cedar forest, 27.x.1934 (*F.W.E.*), 1 ♂.

Typical locality: ABYSSINIA: Diredaua; of *secrecauda*: Mt. Elgon, East-slope, Elgon saw mill, 2470 m.

In B.M. from ABYSSINIA, TANGANYIKA, UGANDA: Busana, 22.x.33 (*T. W. Chorley*); Arua, 1919 (*R. E. McConnell*); KENYA: Trans-Nzoia District near Cherangani Hills, 40 m. E. of Mt. Elgon, 6200 ft., 6.–9.ii.1925 (*C. R. S. Pitman*). Seen from KENYA: Naivasha, Nairobi, Karura.

Séguy's description of the abdomen of *secrecauda* (first abdominal segment of male not conspicuously spotted, hypopygial prominence "biglobuleuse", abdomen of female with reduced spots) proves that his species is identical with Stein's *perfida* and not with the species hereafter described as *trapezia*. The darker specimens noted in the key are those caught between Butandiga and Bulambuli, in which the lateral lobes of the trifoliate process are not dilated interiorly near base, as is the case in specimens from Mabungo Camp, Abyssinia, etc. These differences are too slight, however, to cause me to regard this form as separate. The specimen from Entebbe has the pleurae pale, the hypopygial prominence longer in ventral view, and the lateral lobes of the trifoliate process simple interiorly.

Atherigona trapezia sp. n. ♂ ♀

Length 3·1–4·6 mm.; *of wings* 2·9–4·3 mm.

♂. *Head* fuscous behind and above, yellowish in front and below, yellowish-grey dusted on occiput, frontal triangle and parafrontalia, golden dusted on face, parafacialia, and ventral surface, glossy fuscous on median dorsal part of occiput. Interfrontalia dull brownish-black, parallel, parafrontalia with 3–4 inclinate frontal setae. Outer vertical rather strong, though conspicuously weaker than the inner vertical, postverticals and ocellars moderate. Antennae fuscous, the third joint two and a half times as long as wide, arista fuscous, rather stout. Palpi yellow. Jowls one and a half times as wide as the parafrontalia in middle.

Thorax piceous, humeri and propleurae yellowish, yellowish-grey dusted, with three brown vittae on dorsum, which are not very wide nor very striking, of equal width, pleurae largely golden dusted. *prst acr* in 4–5 rows, the last *prst* pair distinctly longer, a distinct pair of *prsc*. 2 + 3 *dc*, the *prst* ones quite distinct though small, only the last two pairs strong; scutellum with the lateral setae slightly shorter and weaker than the apical pair. One strong, one moderate, and sometimes a minute propleural seta. *stpl* in an equilateral triangle, which bears one or two fine setae, lower *stpl* considerably weaker, posterior one much stronger than the anterior *stpl*.

Abdomen testaceous, first segment with a large, more or less bi-lobed spot or with two transverse broad spots along hind margin, a narrow hind margin (more or less dilated on median line) and about a tenth of the width of the segment on each side remaining testaceous, second segment with a pair of large, oblong-quadrate spots which converge somewhat behind and occupy

the disc of the segment but for a lateral margin as wide as on the first segment, a narrow hind margin, and a median vitta which is broader in front but is sometimes strongly infuscate or divided by a brownish median line, third segment with a pair of oblong spots which do not reach either front or hind margin, fourth segment unspotted; lateral marginal setae rather strong on first three segments, fine though distinct on fourth. Hypopygial prominence (Fig. 30) strongly triangularly dilated in posterior view with the apical angles strongly projecting sideward, somewhat notched in middle, broadly trapezoidal in ventral view. Trifoliate process (Fig. 48*a*, *b*) dull black, median lobe filiform, very gradually and slightly clavate in ventral view, somewhat compressed and more or less dilated in middle in lateral view, tapering to apex, the latter not incurved; lateral lobes suboval with the inner margin almost straight, very slightly sinuate at base of outer margin.

Legs testaceous, front femora at most with a slight brownish dorsal streak, front tibiae strongly infuscate except at base, front tarsi piceous, the apex slightly paler. Mid-tibiae with a *pd*, hind tibiae with *ad*, *av* and *pd* setae, the latter beyond the *pd* or level with it.

Wings hyaline, veins testaceous, r_{4+5} and *m* slightly converging at apex, *r–m* just before two fifths of the discal cell. Calyptrae hyaline, the lower one largely yellowish, border pale yellow. Halteres whitish-yellow.

♀ similar to male, but the parafacialia more whitish dusted, the third antennal joint less broad, almost thrice as long as wide, front femora largely piceous, except for part of the base, mid and hind tarsi infuscate, second abdominal segment more or less wholly piceous on disc, third with a pattern similar to that of the second segment of the male, fourth similar to the third of the male, but the median and lateral parts more or less distinctly infuscate, though yellowish-grey dusted, often the disc of the abdominal segments wholly piceous.

UGANDA: Kigezi District, Mabungo Camp, 6000 ft., 18.xi.1934 (*J. Ford*) ♂ type, 37 ♂, 39 ♀ paratypes; Mt. Muhavura, 7000 ft., 29.ix.1934 (*F.W.E.*) 23 ♂, 22 ♀ paratypes; Mt. Mgahinga, 11000 ft., 22.xi.1934 (*F.W.E.*), 1 ♂ paratype. Ruwenzori, Kyarumba, 4500 ft. (*D. R. Buxton*) 2 ♀ paratypes. Mt. Elgon, Butandiga, 7000 ft., viii.1934 (*J. Ford*) 1 ♂, 1 ♀ paratypes; Bulambuli, 9500 ft., viii.1934 (*J. Ford*) 1 ♂ paratype; Mudangi, 11,000 ft., viii.1934 (*J. Ford*) 1 ♀ paratype. KENYA: Aberdare Range, Katamayo, 8000 ft., x.1934 (*F.W.E.*) 1 ♂, 4 ♀ paratypes; Mt. Kinangop, 8000 ft., 26.-27.x.1934, 1 ♂, 2 ♀ paratypes, 8500 ft. 1 ♂ paratype, 9000 ft. 1 ♀ paratype, 9000 ft. in cedar forest 1 ♂, 3 ♀ paratypes, 10000 ft. 2 ♀ paratypes (*J. Ford* and *F.W.E.*); Naivasha, vii.1937 (*H. J. A. Turner*) 2 ♂ paratypes; Nairobi, iii.1935 (*Van Someren*) 1 ♀ paratype; Karura, vi.1937, caught on *Lantana* (*Van Someren*), 1 ♀ paratype. ABYSSINIA: Djem-Djem Forest, ca. 8000–9000 ft., 21.-29.ix.1926 (*H. Scott*) 2 ♂, 7 ♀ paratypes; Wouramboulchi, Serpent Lake, ca. 9000ft. (*J. Omer Cooper*) 1 ♀ paratype.

Atherigona steeleae sp. n. ♂ ♀

Length 4·2–5·5 mm.; *of wings* 4–5·2 mm.

♂. *Head* fuscous behind, yellowish in front and below, densely yellowish to golden-grey dusted, except on median dorsal part of occiput and on interfrontalia. The latter dull blackish-brown, usually narrowly rufescent in front, parallel to very slightly widened anteriorly; parafrontalia with (3–) 4 (–5) inclinate frontal setae. Outer vertical considerably weaker than the inner vertical though quite strong, postverticals and ocellars rather strong. Antennae ferruginous, third joint infuscate along the dorsal edge and towards apex, not quite thrice as long as wide, arista brown, ferruginous at base. Palpi yellow. Jowls almost twice as wide as parafrontalia in middle.

Thorax piceous, humeri and pleurae pale, the latter slightly infuscate below the wings, densely pale yellowish-grey dusted, with at most slight traces of three narrow vittae. *prst acr* in four to five rows, the last *prst* pair slightly stronger, a pair of distinct *prsc.* 2 + 4 *dc*, the two *prst* pairs rather conspicuous, the last two pairs strong; scutellum with the lateral sub-basal seta almost a third as long as the lateral pair which is almost as long as the apical one. Three propleural setae, two of them quite strong, upper prostigmatal seta as long as the second propleural. *stpl* in an equilateral triangle, which bears, in addition, a few single, small hairs, the lower *stpl* much weaker and the posterior one slightly stronger than the anterior *stpl*.

Abdomen pale ferruginous, with not very dense yellowish dust, the first segment unspotted, the second and third each with a pair of oblong piceous spots of about half the length of the segment, which do not reach the hind margin though they are much closer to it than to the anterior end; the first three segments with rather strong marginal setae, even the fourth with a marginal row of quite conspicuous setae. Hypopygial prominence (Fig. 29) stout, large, strongly bi-lobed, subcordiform, when seen from behind, the two lobes large, depressed and subtriangular, with the outer and anterior angles broadly rounded, when seen from below, well defined from each other all round. Stalk of trifoliate process (Fig. 58) fuscous in basal half, ferruginous in apical half, as are the supports of the lobes and the median lobe, the latter filiform, slightly dilated and shortly bifurcate at apex in ventral view, quite filiform in lateral view, lateral lobes dull piceous-black, with the margins of the ventral surface glossy, half-moon shaped, slightly emarginate at base of outer margin, the inner margin extending into an incurved, very blunt tooth. In the male from Kyarumba the lateral lobes are more slender with the apex much more narrowly rounded than in the males from Kilembe and Kampala.

Legs entirely testaceous. Mid-tibiae with a small *pd*, hind tibiae with moderate *ad*, *av* and *pd* setae, the latter slightly beyond the *av* or level with it.

Wings hyaline, costal and subcostal cells slightly infuscate, the apex

extremely narrowly infuscate along the costa from the middle of R_3 to *m*, veins brown, r_{4+5} and *m* slightly converging at apex, *m* straight, r_{4+5} almost unnoticeably sinuate, *r–m* just beyond two-fifths of the discal cell. Calyptrae yellowish, the lower one slightly infuscate in apical third. Halteres pale yellowish.

♀ similar to male. Head and pleurae more whitish-grey dusted. Third antennal joint almost four times as long as wide, fuscous, except at base. Pleurae much darker though the propleurae are pale. Abdomen testaceous to light ferruginous at sides and base, the first segment with a large, bi-lobed brownish shadow on dorsum, the second to fourth each with a pair of piceous elongate spots, which do not reach the hind margin, and a narrow, brownish, incomplete median vitta, the latter mainly occupying the basal part of the segments; marginal setae quite distinct though not very strong. Front legs piceous, except for base and extreme apex of femora and base of tibiae, hind tarsi slightly infuscate, rest of legs testaceous. Wings not infuscate. Calyptrae more greyish-hyaline, not distinctly infuscate.

UGANDA: Ruwenzori, Kilembe, 4500 ft. (*F.W.E.*) ♂ type, 3 ♂, 3 ♀ paratypes; Kampala, 30.i.1927 (*H. Hargreaves*) 1 ♂ paratype, 16.vii.1926 and 6.v.1932 (*G. L. R. Hancock*) 2 ♀ paratypes. SUDAN (paratypes): Loti, 19.xi.1933 (one marked 19.iv.1933), "in undergrowth in forest to E.", "in forest-clearing along path", "on path downhill to forest, mostly elephant grass" (*Miss M. Steele*) 5 ♀; 2.xi.1933 on path to forest, mostly elephant grass (*Miss M. Steele*) 1 ♀; Shendi, 21.xi.1927, bred from dura (*Andropogon sorghum*) (*J. W. Cowland*) 1 ♀. ABYSSINIA: Mt. Chillạlo, forest, ca. 9000 ft., 14.xi.1926 (*H. Scott*) 1 ♀.

One of the males from Kilembe measures only 3·5 mm., but through the pale pleurae, wholly ferruginous second antennal joint, and the strongly bi-lobed hypopygial prominence it points to this species. The lateral lobes of the trifoliate process are somewhat more slender, the dilatation on the inner side more obtuse, and the apical half of the median lobe infuscate.

Atherigona longifolia sp. n. ♂

Length 3 mm.; *of wings* 2·8 mm.

Head fuscous behind, translucent yellowish in front and below, densely whitish-grey dusted, the median dorsal part of occiput glossy fuscous, interfrontalia blackish, narrowly rufescent on front margin (teneral?). Interfrontalia slightly widened anteriorly, parafrontalia with four inclinate frontal setae. Outer vertical slightly weaker than inner vertical, postverticals and ocellars rather weak. Antennae fuscous, the margins of the second joint ferruginous, third joint less than two and a half times as long as wide; arista fuscous,

slightly paler at base. Palpi yellow. Jowls not quite as wide as parafrontalia in middle.

Thorax piceous, including dorsal surface of humeral callus, propleura and ventral surface of humeral callus yellowish, densely pale yellowish-grey dusted, dorsum with three narrow and very faint vittae which do not reach scutellum. *prst acr* in four to five rows, the last *prst* pair distinctly longer, a pair of small *prsc*. 2 + 3—4 *dc*, the last two pairs moderately strong, scutellum with the lateral setae slightly weaker than the apical pair, both moderately strong. Two rather strong propleural setae. *stpl* in a triangle, the posterior side of which is shorter, and which bears a few setulae, the lower *stpl* weak, the anterior one slightly weaker than the posterior one, both moderately strong.

Abdomen testaceous, almost entirely infuscate and dusted on dorsum, the first segment with a deeply bi-lobed large piceous spot, the second and third with a narrow median vitta and a pair of oblong, slightly converging spots which do not quite reach hind margin, fourth segment entirely ferruginous, marginal setae rather distinct at the sides of the first to third segments, one pair of smaller setae on the fourth segment. Hypopygial prominence (Fig. 25) small, subtruncate, somewhat knoblike, with the angles slightly projecting, trapezoidal in vertical view. Trifoliate process (Fig. 32) with the lobes very long and slender, band-shaped, median lobe blade-shaped, not dilated at apex in ventral view, elbowed in lateral view, lateral lobes gradually slightly curved, about twice or thrice as wide and almost twice as long as their basal support.

Legs testaceous, apical two fifths of front femora piceous, except for a narrow yellow apical ring, front tibiae, except base, and the basal 2–3 tarsal joints strongly infuscate, mid-coxae blackish, except for the margins which are ferruginous. Mid-tibiae with a small *pd*, hind tibiae with moderate *ad*, *av* and *pd* setae, the latter very little beyond the *av*.

Wings hyaline, the veins testaceous, r_{4+5} and *m* straight and slightly converging at apex, *r–m* slightly before two-fifths of the discal cell. Calyptrae greyish-hyaline, the border yellowish-white. Halteres yellowish-white.

UGANDA: Ruwenzori, Kilembe, 4500 ft. (*F.W.E.*) ♂ type.

Atherigona budongoana sp. n. ♂ ♀

Length 3·8–4·8 mm.; *of wings* 3·6–4·5 mm.

♂. *Head* fuscous behind, yellowish in front and below, densely whitish-grey dusted, yellowish-grey on parafacialia, the median dorsal part of occiput glossy fuscous. Interfrontalia dull blackish-brown, narrowly rufescent in front, parallel, parafrontalia with 4–5 inclinate and one reclinate frontal setae. Outer vertical much weaker than inner vertical, though quite distinct, postverticals and ocellars rather strong. Antennae fuscous, third joint not

quite thrice as long as wide, the base of the arista rufous. Palpi yellow. Jowls wider than the parafrontalia in middle.

Thorax: Mesonotum piceous, usually with three narrow brown vittae, its lateral part, the humeri, apex of scutellum and pleurae pale testaceous, thorax densely whitish-yellow dusted. *prst acr* in 4–5 rows, the last *prst* pair slightly stronger, a pair of distinct *prsc*. 2 + 3—4 *dc*, the *prst* pairs comparatively strong, the last two pairs strong; scutellum with the lateral seta slightly weaker than the apical one. Two strong and one minute propleural setae. *stpl* in an equilateral triangle, which bears a few fine hairs, the lower *stpl* much weaker, the posterior slightly stronger than the anterior one.

Abdomen testaceous to ferruginous, distinctly yellowish-dusted, the first segment slightly infuscate at apex, the second and third rather strongly infuscate, each with a pair of oblong piceous spots of approximately half the length of the segment, which do not reach the hind margin, though they approach it; fourth segment entirely testaceous, marginal setae rather distinct on the first three segments, fine on the fourth. Hypopygial prominence (Fig. 23) stout, short, trapezoidal, truncate at apex, with the angles slightly projecting behind and hardly in front. Trifoliate process (Fig. 59) with the stalk testaceous and the lobes black, largely dull, median lobe linear, slightly dilated and shortly bifurcate at apex in ventral view, very strongly compressed, broadly fusiform with the apex incurved in lateral view, almost as wide at widest point (near base) as lateral lobes, the latter band-shaped, outer margin obliquely truncate at base, broadly rounded elsewhere, inner margin concavely rounded.

Legs entirely testaceous or—in the specimen from Nyamgasani Valley—with the front tarsi fuscous and the apex of the front tibiae, the mid and hind tarsi slightly infuscate. Mid-tibiae with a small *pd*, hind tibiae with moderate *ad*, *av* and *pd* setae, the latter slightly beyond the *av*.

Wings hyaline, the veins testaceous at base, brown at apex, r_{4+5} and *m* straight and very slightly converging in apical part, *r–m* slightly beyond two-fifths of the discal cell. Calyptrae pale yellowish, the lower one slightly infuscate in apical third, halteres white (yellowish-white in specimen from Nyamgasani Valley).

♀ similar to male. Parafacialia whitish dusted. Pleurae largely though very slightly infuscate, appearing pale, humeri and propleurae entirely pale. Antennae as in male. Abdomen testaceous with some brownish shadows on the second segment and a pair of round spots on the third, or more or less infuscate on the dorsum and with large fuscous spots, a bi-lobed one on the first, a pair of elongate spots on the second, a pair of narrow, elongate spots on the third, and a pair of small, round, brown spots on the fourth segment. Legs testaceous, the apical half or third of the front femora (except for the extreme apex), the apical three-fifths of the front tibiae, the front and hind

tarsi strongly infuscate, mid-tarsi slightly infuscate. *r–m* at two-fifths of discal cell.

UGANDA: Budongo Forest, 7.-8.ii.1935 (*F.W.E.*) ♂ type, 2♂ paratypes, 2 ♀ paratypes; Ruwenzori, Nyamgasani Valley, 6400 ft. (*D. R. Buxton*) 1 ♂; Busana, 22.x.1933 (*T. W. Chorley*) 1 ♀. KENYA: Solai Dist., Sonje Valley, Laikipia Escarp. 12.ix.1919 (*T. J. Anderson*) 1 ♀. The specimen from Busana is somewhat greasy and its identity not quite certain.

There is a single male from Ruwenzori: Mobuku Valley, 7300 ft. (*F.W.E.*), in which the pleurae are mainly dark, the hypopygial prominence somewhat more outstanding (though very similar in shape), the outer lobes of the trifoliate process not concavely rounded at interior side but slightly convex (slightly concave only near basal support), and the median lobe simple at apex, shorter, not incurved at apex, and more slender in basal half. This is no doubt a local form of *budongoana*.

[**Atherigona truncata** sp. n. ♂]

Length 3·4 mm.; *of wings* 3 mm.

Head fuscous behind and above, pale ferruginous in front and below, densely grey dusted, except on median dorsal part of occiput, parafrontalia and frontal triangle, which are glossy fuscous. Interfrontalia dull fuscous, subparallel, parafrontalia with four inclinate setae, the first of which is small. Outer vertical distinct, though not very strong, inner vertical moderately strong, postverticals and ocellars well developed. Antennae ferruginous, third joint slightly infuscate along dorsal edge, very large, almost as long as the head high, though not quite thrice as long as wide, arista long, light brown near base, fuscous at apex. Palpi yellow. Jowls as wide as parafrontalia in middle.

Thorax ferruginous, mesonotum and scutellum piceous, except for lateral presutural part, grey dusted without distinct vittae, apex of scutellum narrowly ferruginous. *prst acr* in 4–5 rows, the last *prst* pair longer, *post acr* in six rows, 2 + 3 *dc*, only the last two pairs rather strong; lateral sub-basal seta of scutellum almost a third as long as the lateral seta which is strong though moderately long and equal to the apical one. Two rather strong propleural setae and a minute one. *stpl* in an equilateral triangle which bears 1–2 minute hairs, lower *stpl* rather weak, anterior moderately strong, posterior one rather strong.

Abdomen ferruginous with paler base, second segment with a pair of rather large oblong piceous spots which do not reach front nor hind margin, third with a pair of small, roundish spots very close to hind margin though not quite reaching it, fourth with a pair of similar, still smaller spots, lateral marginal setae well developed on all the four segments. Hypopygial prominence (Fig. 8) rather strongly projecting, knob-shaped with sub-truncate apex.

Trifoliate process (Fig. 45) black, median lobe filiform, the apex shortly clavate with the normal minute hairs, more long-clavate in lateral view, lateral lobes narrow and hardly dilated in basal half, the apical half semi-circular.

Legs testaceous, the front tibiae slightly infuscate in apical half, front tarsi strongly infuscate, less so towards apex, hind tarsi slightly infuscate. (Mid-legs missing in type). Hind tibiae with small *ad, av* and *pd* setae, the latter almost at the same level.

Wings hyaline, veins testaceous, r_{4+5} and *m* distinctly converging at apex, *r–m* slightly before two-fifths of the discal cell. Calyptrae hyaline with pale testaceous border. Halteres pale-yellow.

KENYA: Rabai, viii.1930 (*Van Someren*) ♂ type.

Atherigona pedunculata sp. n. ♂

Length 4·2 mm.; *of wings* 4·4 mm.

Head fuscous on frons and occiput, yellowish in front and below, densely grey dusted, except on median dorsal part of occiput which is glossy fuscous, as are the parafrontalia and frontal triangle. Interfrontalia dull black, sub-parallel, parafrontalia with 4–5 inclinate (one or two of them small) frontal setae. Outer vertical much weaker than inner one, though quite strong, postverticals and ocellars rather strong. Antennae ferruginous, the third joint very long and broad, more than thrice as long as wide, the dorsal margin and apex infuscate, the latter rather broadly, arista long, longer than the head is high, fuscous, its basal quarter ferruginous. Palpi yellow. Jowls one and a half times as wide as the parafrontalia in middle.

Thorax piceous, humeri and pleurae largely yellowish, only partly and slightly infuscate, yellowish-grey dusted on dorsum, with a pair of very narrow brown vittae along the *dc* and a somewhat broader median brown vitta, which is slightly dilatate to hind end but does not reach the scutellum; pleurae whitish-grey dusted. *prst acr* in five rows, the last *prst* pair distinctly longer, a distinct pair of *prsc*. 2 + 4 *dc* of which only the last two pairs are strong; scutellum with the lateral sub-basal seta almost a third as long as the lateral seta, the latter subequal to the apical pair. Three propleural setae of which two are rather strong, the upper prostigmatal rather strong though conspicuously weaker than the second propleural. *stpl* in an almost equilateral triangle, which bears a few fine setulae, lower *stpl* considerably weaker than the two others.

Abdomen ferruginous, with the base testaceous, the first segment with a large piceous spot which reaches hind margin and is as broad as the dark pattern on the second segment, the latter entirely piceous on dorsum except for a lateral margin of about one eighth of the segment-width on either side, this stripe densely whitish-grey pollinose, third segment with a pair of oblong

piceous spots which slightly converge in front and are fused except behind, fourth segment entirely ferruginous, marginal setae rather strong on segments 1–3, finer though very distinct on fourth. Hypopygial prominence (Fig. 7) knob-shaped, rather large. Trifoliate process (Fig. 49) black, median lobe filiform, very slightly dilated at apex in ventral view, with the apical setae hair-like, longer and more numerous than usual, slightly compressed, straight and gradually very slightly dilated towards apex in lateral view, lateral lobes with the basal part filiform, stalk-like, as long as the apical part which is broadly axe-shaped.

Legs testaceous, the apex of the front tibiae very slightly and the first to third joints of the front tarsi strongly infuscate. (Mid-tibiae missing), hind tibiae with rather strong *ad*, *av* and *pd* setae, the latter hardly beyond the *av*, whereas this is inserted rather far from *ad*.

Wings hyaline, slightly smoky, the veins testaceous, very narrowly infuscate along r_{4+5} and *m* at apex, these veins distinctly converging and slightly sinuate, the apex of the wing truncate and rectilinear between them, *r–m* at two-fifths of the discal cell. Calyptrae hyaline, slightly smoky, the border testaceous. Halteres yellowish.

UGANDA: Ruwenzori, Namwamba Valley, 6500 ft. (*E. G. Gibbins*) ♂ type.

Atherigona triangularis sp. n. ♂

Length 4 mm.; *of wings* 3·8 mm.

Head fuscous behind, testaceous in front and below, grey dusted, the median dorsal part of the occiput glossy fuscous, parafrontalia glossy black, temples, jowls and face (incl. parafacialia) golden dusted. Interfrontalia dull, almost velvety blackish-brown, parallel, parafrontalia with 2–3 inclinate frontal setae. Outer vertical evidently very weak, inner vertical strong (the pores of both only present in type), postverticals moderate, ocellars rather long. Basal joints of antennae reddish-brown, third joint pale ferruginous, with the apex broadly infuscate, less so on ventral side, two thirds as long as head high, thrice as long as wide, base of the arista testaceous. Palpi yellow. Jowls (at narrowest point) almost as wide as parafrontalia in middle.

Thorax piceous, with yellowish humeri and propleurae, densely grey dusted, humeri and sides more golden dusted, mesonotum with a brown median vitta, which broadens behind, reaches apex of scutellum and occupies all the latter except for a narrow outer stripe. *prst acr* in four to five rows, a pair of distinct *prsc*, 2 + 4 *dc*, only the last two pairs rather strong. Two strong and a small propleural setae. *stpl* in a triangle which bears a few fine short hairs and the posterior side of which is slightly shorter, the lower *stpl* much weaker.

Abdomen ferruginous, the first segment with a suffused piceous median spot, second segment with a pair of large, oblong piceous spots which do not

reach the hind margin, third with a pair of small, roundish, slightly oblong piceous spots towards hind margin, fourth with a pair of small, roundish, slightly transverse piceous spots; marginal setae quite strong on first three segments, very distinct though rather fine on fourth segment. Hypopygial prominence (Fig. 11 *a*, *b*) almost knoblike, moderately large, slightly broadened to apex which is somewhat convex in posterior view and little wider than long in vertical view, with the posterior angles slightly marked, the anterior ones rounded. Trifoliate process (Fig. 42 *a*, *b*) purplish-black, median lobe very strongly depressed, very broadly triangular in more than apical half, broader than the lateral lobes, the apex truncate and the apical angles prolonged and upcurved, the lateral lobes axe-shaped, rather broad, with a short stalk.

Legs broken, except for coxae and trochanters which are entirely pale ferruginous.

Wings hyaline, veins testaceous, brown towards apex, r_{4+5} and *m* very narrowly and not very conspicuously infuscate at apex, slightly converging, *r–m* slightly beyond two-fifths of the discal cell. Calyptrae greyish-hyaline, the border yellowish. Halteres yellowish-white.

UGANDA: Ruwenzori, Kilembe, 4500 ft. (*F.W.E.*) ♂ type. The specimen is poor, all the legs being broken. Unfortunately the abdomen and trifoliate process were damaged during the dissection of the latter.

Atherigona aurifacies sp. n. ♂

Length 3·8 mm.; *of wings* 3·6 mm.

Head fuscous on frons and occiput, yellowish in front and below, grey dusted on occiput, frontal triangle and posterior two thirds of parafrontalia, glossy fuscous on median dorsal part of occiput, golden dusted on anterior part of parafrontalia, on face and parafacialia, yellowish-grey dusted below. Interfrontalia dull dark brown, slightly and evenly dilated in front, parafrontalia with four inclinate frontal setae. Outer vertical rather strong, slightly weaker than inner vertical (postverticals lost) ocellars rather strong. Antennae fuscous, second joint with reddish margins, the third joint long and broad, two and a half times as long as wide, arista fuscous. Palpi fuscous. Jowls one and a half times as wide as parafrontalia in middle.

Thorax piceous, humeri and propleurae pale ferruginous, yellowish-grey dusted on dorsum (specimen greasy). *prst acr* in five rows, the last *prst* pair distinctly longer, a distinct pair of *prsc.* 2 + 3 *dc*, the *prst* ones rather distinct, the last two strong, scutellum with the lateral and apical setae subequal, strong. One strong, one moderate and one minute propleural seta, upper prostigmatal seta moderately long though weaker than the second propleural. *stpl* in an almost equilateral triangle, which bears one or two fine setulae, lower *stpl* much weaker than the two others.

Abdomen light ferruginous, the second segment with a pair of small, brown, suffused spots; marginal setae rather strong on segments 1–3, fine on the fourth. Hypopygial prominence (Fig. 9) simple, knob-shaped, rather large. Trifoliate process (Fig. 40 *a*, *b*) with the apex of the stalk and the support of the lobes whitish, the lobes black, median lobe filiform, clavate at apex in ventral view; lateral lobes suboval with the inner margin very slightly emarginate, outer margin broadly though very shallowly emarginate near base, at the inner end of the emargination a keel arises which reaches inner part of apex, the disc of the lobe slightly hollowed out outward of the keel.

Legs testaceous, front femora somewhat brownish near apex, front tibiae infuscate, except near base, front tarsi strongly, the others slightly infuscate. Mid-tibiae with a moderate *pd*, hind tibiae with moderate *ad*, *av* and *pd* setae, the latter considerably beyond the *av*.

Wings hyaline, veins testaceous, r_{4+5} and *m* slightly converging at apex, their apex straight, *r–m* slightly before two-fifths of discal cell. Calyptrae yellowish. Halteres pale yellow.

UGANDA: Ruwenzori, Kilembe, 4500 ft. (*F.W.E.*) ♂ type.

Atherigona lineata ugandae ssp. n. ♂ ♀

Characters the same as in *lineata*, but slightly smaller, 3·2–3·9 mm., whereas the female types of *lineata*, one of which I have seen, are 4 mm., and the specimens of both sexes from Salisbury (typical locality of *lineata* Ad.) at hand, collected by *Mr. Alex. Cuthbertson*, measure 3·8–4·6 mm. Front femora entirely yellow in male of ssp. *ugandae* and the front tibiae less strongly infuscate, whereas most of the apical half, except for a narrow apex, of the posterior surface of the front femora is piceous in the typical form. The first abdominal segment of the latter is much broader and the second therefore more narrowed posteriorly than in *ugandae*, the branches of the hypopygial prominence (Fig. 18, viz. 16) are somewhat longer and more diverging in the latter, and the basal support of the lateral lobes of the trifoliate process (Fig. 39, viz. 36) is not distinctly stalk-shaped, only half as long as the lobe and mainly black, whereas it is distinctly longer than the lobe and blackish only along interior margin in the typical form. The humeri are black and covered with dense grey dust in both forms. The only character I find for discriminating between the females of the two forms (besides the slight difference in the average size) is the colour of the apical one to three joints of the mid and hind tarsi: these are usually more or less distinctly paler in the females of the ssp. *ugandae*. The pores of the frontal setae are sometimes surrounded by a narrow glossy area, but the parafrontalia are none the less mainly dusted.

UGANDA: Kigezi District, Mabungo Camp, 6000 ft., xi.1934 (*J. Ford*) ♂ type, 9 ♀ paratypes; Arua, 1919 (*R. E. McConnell*) 4 ♀ paratypes; Busana,

22.x.1933 (*T. W. Chorley*) 9 ♀, in these specimens the humeri are partly yellowish. KENYA: Karura, vi.1937, caught on *Lantana* (*Van Someren*), 1 ♀ paratype; Nairobi, vi.1928 (*Van Someren*) 1 ♀ paratype (in Coryndon Mem. Mus.).

[**Atherigona binubila** sp. n. ♂ ♀]

Length 3·7–4·7 mm.; *of wings* 3·3–4·3 mm.

♂. *Head* fuscous behind and above, testaceous in front and beneath, interfrontalia dull black, median dorsal part of occiput glossy fuscous, rest of head densely pale grey dusted. Interfrontalia parallel or very slightly dilated anteriorly, parafrontalia with four inclinate setae, the first of them small. Inner vertical rather strong, outer vertical much weaker, postverticals and ocellars rather strong. Antennae with the basal two joints ferruginous, the second somewhat infuscate, third joint fuscous, less than thrice as long as wide, arista fuscous with brown base. Palpi fuscous. Jowls distinctly narrower than the parafrontalia.

Thorax piceous, with the humeri and propleurae testaceous, densely grey dusted, the pollinosity with some golden reflections on the pleurae, dorsum with three quite conspicuous though not very broad brown vittae, the sub-lateral ones slightly narrower. *prst acr* in 4–5 rows, the last *prst* pair distinctly longer, 2 + 3—4 *dc*, only the last two pairs rather strong, scutellum with the lateral sub-basal seta fine though almost of a third the length of the lateral seta, the apical one slightly longer than the latter. Two strong and one minute propleural. *stpl* in an almost equilateral triangle which bears 1–2 small hairs, lower *stpl* considerably weaker, posterior *stpl* slightly longer than the anterior one.

Abdomen testaceous, first segment with a brown to piceous median vitta from base to four-fifths and a transverse band shortly before hind margin which is incomplete at middle and sides but the anterior inner end of which is often broadly connected with the median vitta, second segment with a brown median vitta which is incomplete behind and a pair of rather large, piceous inverted-triangular spots, third segment with a short trace of a median vitta at base and a pair of rather small, oblong, piceous spots, fourth segment without distinct spots. Hypopygial prominence (Fig. 10) rather strongly projecting, transversely knob-shaped. Trifoliate process (Fig. 33 *a*, *b*) with the stalk and base testaceous, the lobes piceous-black, median lobe linear at base, slightly thickened and filiform behind middle, apex slightly bifid in ventral view, narrowly bandshaped and strongly incurved in lateral view; lateral lobes boomerang or elongate-banana-shaped with a long emargination in basal third of outer margin.

Legs pale ferruginous, the front femora somewhat infuscate in apical half, except for the extreme apex, front tibiae strongly infuscate in apical half,

front tarsi piceous at base and becoming gradually light brown to the last two joints. Mid-tibiae with a very small *pd*, hind tibiae with moderate *ad*, *av* and *pd* setae, the latter slightly beyond the *av* or level with it.

Wings hyaline with a brown suffusion at the base of the costal cell beyond *h*, which extends to the first and second basal cells, and a yellowish-smoky suffusion between the apices of *sc* and r_1. *m-m* slightly suffused with yellow. r_{4+5} and *m* distinctly converging at apex, *r-m* between one-third and two-fifths of discal cell. Calyptrae whitish, slightly smoky towards margin, the latter pale yellowish. Halteres whitish.

♀ with the third antennal joint more than thrice as long as wide. Shape of the abdomen rather short-oval, the spots of the third segment inverted-triangular, fourth segment with a pair of roundish, slightly oblong spots, the ground-colour of the third and fourth segments and more or less the second grey, though densely yellowish dusted. Front legs piceous except for the base of the femora and the knees, hind tibiae and mid-tarsi infuscate, hind tarsi strongly infuscate. Wings entirely hyaline.

Kenya: Nairobi, ix.1937 (*Van Someren*) ♂ type; vi.1928 1 ♂ 2 ♀ paratypes; Karura, vi.1937 caught on *Lantana* (*Van Someren*), 1 ♂ 2 ♀ paratypes; Naivasha, vii.1937 (*H. J. A. Turner*) 1 ♀ paratype (paratypes partly returned to Coryndon Memorial Museum); Ruiru, 19.viii.1932, on coffee (*H. C. James*) 1 ♀ paratype.

Atherigona piceiventris sp. n. ♂ ♀

Length 2·8–4·1 mm.; *of wings* 2·6–3·7 mm.

♂. *Head* fuscous behind and above, yellowish in front and below, densely yellowish-grey dusted, the parafacialia golden dusted, median dorsal part of occiput glossy fuscous. Interfrontalia dull black, slightly dilated in front, parafrontalia with four inclinate frontal setae. Outer vertical rather short though quite strong, inner vertical strong, postverticals moderate, ocellars rather long. Antennae fuscous, third joint two and a half times as long as wide, arista fuscous. Palpi fuscous. Jowls distinctly wider than the parafrontalia in middle.

Thorax piceous with the ventral surface of the humeral callus and the propleura yellowish, densely yellowish-grey dusted, dorsum with three dark brown vittae. *prst acr* in 4–5 rows, the last *prst* pair slightly stronger, a pair of distinct *prsc*. 2 + 4 *dc*, the *prst* pairs distinct though small, only the last two pairs well developed; the lateral pair of scutellar setae conspicuously shorter than the apical pair, though quite strong. Two rather strong propleural setae. *stpl* in an almost equilateral triangle, the posterior side of which is slightly shorter, and which bears a few single fine setulae, the lower *stpl* much weaker than the others which are subequal.

Abdomen testaceous, the dorsum of the first and second segments almost

entirely piceous, sides and hind margin narrowly testaceous, third segment ferruginous with a pair of oblong piceous spots and the dorsum infuscate between them, fourth segment ferruginous, the dark parts rather sparsely brown dusted with a rather broad median vitta of grey dust, the hair of abdomen rather long, setae not very strong. Hypopygial prominence (Fig. 17) not very large, gradually slightly dilated to apex which is emarginate, the two ensuing slight lobes rounded, in ventral view the prominence is elongate bean-shaped. Trifoliate process (Fig. 47) black, except for the stalk which is brown with testaceous apex, median lobe narrow, gradually slightly dilated to apex which is truncate, in lateral view the median lobe is slightly compressed, somewhat narrowed at apex, lateral lobes inverted-oval, broadly emarginate at base of exterior margin.

Legs testaceous, the apical half of the front femora somewhat infuscate, front tibiae piceous except at base, front tarsi piceous, the last two or three joints paler. Mid-tibiae with a small *pd*, hind tibiae with small *ad*, *av* and *pd* setae, the last two on the same level.

Wings hyaline, very slightly smoky, the veins brown, r_{4+5} and *m* straight and very slightly converging at apex, *r-m* at two-fifths of the discal cell. Calyptrae yellowish-smoky, the border testaceous, halteres pale yellowish.

♀. Third antennal joint thrice as long as wide. Propleurae and humeral callus entirely yellow to entirely piceous. Dorsum of abdomen almost entirely piceous, even on third and fourth segments, the spots of these two segments usually on a strongly infuscate greyish-dusted ground, seldom more distinct on a lighter ground, in one female (Mabungo Camp) all the segments show a pair of elongate spots and a median vitta on ferruginous ground. Front femora, except for a narrow basal part and the extreme apex, and front tibiae, except for the base, and front tarsi piceous, hind tibiae and tarsi and sometimes mid-tarsi infuscate.

UGANDA: Mt. Elgon, between Butandiga and Bulambuli, 8000 ft. 7.viii.1934 (*J. Ford*) ♂ type 2 ♀ paratypes; Kigezi District: Mabungo Camp, 6000 ft., resp. 18. and 21.xi.1934 (*J. Ford*) 1 ♀ paratype, 1 ♀ with paler abdomen, see above. KENYA: Chyulu Hills, 5600 ft., vi.1938 (Coryndon Mus. Exped.) 2 ♀ paratypes; Kiambu, 25.vi.1931 (*R. H. Le Pelley*) 1 ♀ paratype.

Atherigona griseiventris sp. n. ♂ ♀

Length 4–5 mm.; *of wings* 4·2–4·5 mm.

♂. *Head* fuscous behind, pale yellowish in front and below, densely yellowish-grey to golden (on parafacialia) dusted, except on median dorsal part of occiput, which is glossy fuscous, and on interfrontalia which are dull black, subparallel. Parafrontalia with (3–) 4–5 (–6) inclinate frontal setae. Outer vertical rather strong, slightly weaker than the inner vertical, postverticals and ocellars rather

strong. Antennae fuscous, third joint not quite thrice as long as wide, arista fuscous. Palpi fuscous. Jowls almost twice as wide as the parafrontalia in middle.

Thorax piceous, densely yellowish-grey dusted, humeri and propleurae yellowish, the latter golden dusted, dorsum with three narrow brown vittae, the lateral ones slightly wider than the median vittae. *prst acr* in 4–5 rows, the last *prst* ones not stronger, a pair of distinct *prsc.* 2 + 3—4 *dc*, only the last two pairs strong; scutellum with the lateral setae distinctly shorter than the apical pair. Two to three propleural setae, two of which are quite strong, upper prostigmatal bristle rather long though very fine and much shorter than the second propleural. *stpl* in an equilateral triangle, which bears a few single small hairs, the lower *stpl* much weaker, the posterior slightly stronger than the anterior one.

Abdomen ferruginous, dorsum of the first and third segments slightly, of the second rather strongly infuscate and rather densely whitish-grey dusted, first segment with a large bi-lobed piceous spot, the two lobes of which almost reach the hind margin, second segment with a pair of elongate piceous spots of almost the length of the segment, which do not, however, quite reach the hind margin, and a faint incomplete median vitta in basal half; third segment with a pair of small, rounded spots close to hind margin; fourth segment entirely ferruginous, distinctly dusted; the first three segments with the marginals distinct though not very strong, the fourth with a few longer hairs along hind margin. Hypopygial prominence (Fig. 12) stout, not very broad, subcordiform, broadly emarginate at apex, bean-shaped in vertical view, with the emargination towards front end. Trifoliate process (Fig. 38 *a*, *b*) black, narrowly pale yellow at furcation, with the lateral lobes short-banana-shaped, strongly emarginate at base, the central part broader (in lateral view) than the lateral lobes, broadly claw-shaped, and filiform with a short terminal club in ventral view.

Mid-legs entirely testaceous (the others missing, except for coxae and trochanters, which are pale ferruginous), mid-tibiae with a small *pd* seta.

Wings hyaline, veins brown with more or less testaceous bases; r_{4+5} and *m* distinctly converging though straight at apex, *r–m* on two-fifths of discal cell. Calyptrae hyaline, the lower one somewhat whitish, halteres pale yellowish.

♀ similar to male. Parafacialia whitish-grey dusted. Third antennal joint thrice as long as wide. Humeri and propleurae slightly infuscate, the last pair of *prst acr* distinctly stronger. Abdomen almost entirely infuscate and rather densely greyish dusted, first segment with a very large piceous spot, which is notched behind on median line, second with a pair of slightly oblong spots of almost the length of the segment and an incomplete faint median vitta, third with the piceous spots more elongate, pattern otherwise similar: on both these

segments the median vitta is connected in front with the spots, and the latter do not quite reach the hind margin and approach each other slightly behind, so that they enclose a large bi-lobed median extension of the grey-dusted hind margin; fourth segment with a short rudiment of the median vitta at base and a pair of small, oblong spots towards apex; marginal setae distinct only on the sides of the first to third segments. Front femora, tibiae and tarsi piceous, except for extreme base of femora and knees; mid and hind tarsi strongly, hind tibiae slightly infuscate; the latter with moderate *ad*, *av* and *pd* setae, *pd* slightly beyond the *av*. *r–m* not much beyond basal third of discal cell.

KENYA: Aberdare Range, Mt. Kinangop, 8000 ft., x.1934 (*F.W.E.*) ♂ type; 9000 ft., xi.1934 (*F.W.E.*) ♀ paratype; Nyeri Track, 10500–11000 ft., x.1934 (*J. Ford*) 2 ♀ paratypes; Chyulu Hills, 5200 ft., iv.–v.1938, 4 ♀ (Coryndon Museum, Nairobi, and B.M.). The specimens from the Chyulu Hills are slightly different: the lateral vittae of the thorax are not so markedly wider or not wider at all than the median vitta, and the abdomen is not so much infuscate and of a more testaceous ground-colour.

Two females (UGANDA: Kigezi District, Mabungo Camp, 6000 ft, 18..xi.1934 (*J. Ford*)) are quite similar to the Chyulu specimens, but in one of them the piceous spots are rather large so that only a narrow bifurcate tongue separates them in the middle. As they are only slightly more than 4 mm. long, these specimens may perhaps be pale females of *piceiventris*.

Atherigona tridentata Mall.

UGANDA: Ruwenzori, Namwamba Valley, 6500 ft. (*F.W.E.*) 1 ♂; Masindi District: Budongo Forest, 7.-8.ii.1935 (*F.W.E.*) 1 ♀.

Typical locality: KENYA: Nakuru. In B.M. from: UGANDA: Segibwa Falls, 29.vii.1935, attracted by human faeces (*E. G. Gibbins*); KENYA: Kabete (*T. J. Anderson*), Naivasha (*H. J. A. Turner*); seen from Kiambu, 24.vi.1931 (*R. H. LePelley*) and Nairobi, vii.1937 (*Van Someren*).

I have not seen the type nor a specimen that entirely fits the description. The single male at hand has the hypopygial prominence (Fig. 22) very broad and subtruncate, in posterior view the lateral angles protrude as small teeth which are connected by a broad and rounded hump, in ventral view it is trapezoidal with the anterior and posterior angles protruding as small teeth. The trifoliate process (Fig. 43) is entirely purplish-black, except for a hyaline, pale blade on median lobe; this lobe is linear in ventral view, somewhat compressed and slightly narrowed to apex in lateral view, the hyaline blade as wide near apex as the lobe, the extreme apex of the latter pale, lateral lobes semicircular. The female has not been described, and there is no female from the same locality as the male. Those females which I include in this species

exhibit a fair amount of variation, which may, however, be due to geographical and in part individual variation. Pending the accumulation of a richer material of this species or group of species it would certainly not seem warrantable to describe these forms.

Microcalyptra sp. n.

KENYA: Mt. Elgon, heath zone, 10500–11500 ft., ii.1935 (*F.W.E.*).

A single, evidently male specimen, without hind legs or abdomen, will be described together with more specimens of this and two other species from Abyssinia in my report on Dr. Scott's collection.

Andersonosia nom. n.

Andersonia Mall., 1928, Ann. Mag. Nat. Hist. (10)1: 465 (non. Boul. 1900, non Strickland 1911).

After reading this report, Dr. F. W. Edwards drew my attention to the fact that *Andersonia* Mall. is several times preoccupied. I have, therefore, slightly altered the name given by Malloch.

Andersonosia velutinifrons Mall.

KENYA: Aberdare Range, Mt. Kinangop (west side), 8000 ft., x.1934 (*F.W.E.*) 1 ♂.

Typical locality: East side of edge of forest, Aberdare Mts., 7300 ft. (type in B.M.).

The type is a female, and the male has not yet been described. It is similar to the female, all the generic characters recorded by Malloch are present, and so are the specific characters of the female. The parafrontalia of both sexes are finely haired on anterior half. In the female the longest hairs of arista are about half as long as the greatest width of the third antennal joint, in the male they measure only a quarter of that width, this being partly due to the greater width of the antennal joint, partly to real shortness of the hairs. Third antennal joint longer and wider than in female, practically reaching lower margin of eyes and mouth-margin. The lower *stpl* in both sexes is almost twice as close to the posterior as to the anterior one. Hind femora of male with 2–3 strong *av* setae near middle besides the preapical. *r–m* slightly beyond middle of discal cell in male. Lower calyptra with yellowish border in male, with yellowish-white border in female. Abdomen parallel-sided, long and slender, depressed, glossy blackish brown, very sparsely dusted, only the anterior angles densely grey dusted, a pair of faint paramedian vittae of sparse greyish dust, close to each other, run over the first three segments. Length 4·5 mm.

Andersonosia semifumosa sp. n. ♂ ♀

Length 5·8 mm.; *of wings* 6·5 mm.

Head black, densely grey dusted, the median dorsal part of the occiput brown dusted, interfrontalia velvety black, with strong brown reflections when seen from in front, parafrontalia grey dusted, with a spot of brown dust just behind level of lunula, the anterior end of the parafrontalia, the parafacialia and face silver-white dusted. Frons as wide at vertex as one eye, considerably widened to base of antennae, as wide in front as long, interfrontalia parallel in posterior half, rounded-dilated at anterior inclinate seta and constricted at base of antennae, where the parafrontalia are half as wide, whereas they are a quarter as wide as the interfrontalia in middle; two strong inclinate frontal setae. Outer vertical weak, inner vertical very strong, postocellars very long, ocellars half as long as frons. Antennae fuscous, inserted at dorsal fifth of eyes, where the frons protrudes in profile by the width of the third antennal joint, the latter very long, more than thrice as long as wide, almost reaching mouth-margin, which is level with the lower margins of the eyes, arista short-haired above, very short-haired beneath, the longest hairs above about twice as long as the arista wide at its widest point. Palpi black. Jowls not quite as wide as third antennal segment, parafacialia as wide at narrowest point as the arista near base.

Thorax black, densely grey dusted, mesonotum largely glossy black with slight brown dust, the shoulders and lateral parts of the mesonotum in front of suture silver-grey dusted. Anterior half of the postsutural part of mesonotum entirely dark, the dark pattern extending backward in a broad tongue between the *dc*; scutellum largely brown dusted, grey dusted at apex. Lower prostigmatal seta replaced by a few minute hairs. *acr* hairs practically absent, 1 + 3 strong *dc*, two strong *post ia*, one strong *sa*, two strong postalar setae, anterior notopleural strong, posterior one small. Scutellum with two or three pairs of hairs and two pairs of subequal strong setae. *stpl* in a triangle, the posterior side of which is less than half as long as the upper one, anterior *stpl* weak, lower *stpl* very weak, posterior *stpl* very strong, longer than any other seta.

Abdomen grey dusted on venter and at base of lateral surface, dorsum almost wholly black and glossy; parallel and slender, somewhat depressed and arched, the sides with distinct setae and a number of long hairs besides the short appressed hairs, fourth segment with a transverse discal and marginal row, each consisting of three pairs of rather strong setae.

Legs piceous, except all the trochanters and tibiae and the basal three-fifths of the mid and three-fourths of the hind femora which are yellow. Front femora with a complete row of about six *pv* and seven *pd* setae, the most distal two pairs of *pv* distinctly stronger than the others, front tibiae with a rather short and strong submedian *pv* seta; mid-femora with fine hairs and two

preapical (*pd* and *p*) setae, mid-tibiae with two *pd* setae; hind femora with a single strong preapical *av*, about four *ad* and a *pd* preapical, hind tibiae with two *ad* and a small *av*, the latter slightly more basad than the second *ad* seta which is inserted on second third; there are, besides, one or two longer, appressed setae distinguishable among the appressed hairs near apex.

Wings long and broad, the apical half brownish, the basal half hyaline, the border vague, veins brown, r_{4+5} and m slightly converging at apex, *r–m* just beyond middle of discal cell, the latter very long, apical section of $m_{3+}cu_1$ much shorter than *m–m*. Calyptrae white, with white margin and fringe, the lower calyptra strongly projecting. Halteres pale yellow.

UGANDA: Ruwenzori, Namwamba Valley, 8300 ft. (*F.W.E.*) ♂ type.

Very similar to *velutinifrons* Mall., but the apical half of the wings is infuscate, vein *r–m* just before middle of the discal vein, border of the calyptrae white, front femora with a complete row of *pv* setae (this character at least will probably distinguish the female of *semifumosa* from that of *velutinifrons*), hind femora without submedian *av* setae, even in male, abdomen without paramedian vittae of greyish dust.

Coenosia Meig.

Whereas in Europe and North America the bulk of the species so far united in *Coenosia* are true members of this genus and only a few belong to *Caricea*, the latter genus comprises the great majority of the Ethiopian *Coenosia* and in fact of the Ethiopian Coenosiinae. Only five species of the large material worked out have been found to belong to *Coenosia*, and I am not able to identify any one of them with a known species. Besides the character of the hind tibial setae there seems to be a more or less marked difference in the head, which is considerably longer and more subcubical or trapezoidal in *Coenosia*. In all the following species the head is not much higher than long, the arista is very shortly pubescent or almost bare, the scutellum bears the normal two pairs of setae, the halteres are yellow, the front tibiae have a *pv* seta and the mid-tibiae an *ad* and a *pd* bristle.

1(4). Legs entirely or almost entirely yellow. *av* seta of hind tibiae absent in male (with very rare individual exceptions). Ocellar bristles moderately developed, moderately diverging.

2(3). Hind tibiae of both sexes without a submedian *pd* seta. Lower calyptra normal, more or less broadly rounded at apex, strongly protruding beyond upper one. Coxae black.[1] Frons rounded anteriorly in profile, very slightly protruding. Antennae short, apex falling far short of level of lower eye-margins . . . . . . *aurifacies* sp. n., p. 146

[1] Front coxae yellowish to brownish, femora black on apical third to one half (whereas they are entirely yellow in *Coenosia aurifacies*): see (*Xenocoenosia*) *africa* Curr. (1935, Amer. Mus. Novit. 776: 12). According to information received from Dr. Curran, this species traces to *Coenosia aurifacies* but is at once separated by the colour of the legs. As the arista is said to be "rather long pubescent above" and the hind tibiae are said to have a "long" *ad*, I should have believed this species to fall within *Caricea* rather than *Coenosia*.

3(2). Hind tibiae of both sexes with a small submedian *pd* seta. Lower calyptra small, subtriangular, and only slightly projecting beyond the upper one. Front coxae yellow, the others mainly dark. Frons angular in profile, protruding by almost the width of the third antennal joint. Antennae rather long, apex almost reaching level of lower eye-margins. Face grey (f. typica) or brown-dusted and apical infuscation of posterior femora shorter but stronger (ssp. *brunneigena*, p. 149).
heterocnemis sp. n., p. 148

4(1). Legs entirely black. *av* seta of hind tibiae present in both sexes (♂ *microcalyptra* unknown). Ocellar bristles very strong, strongly diverging (Fig. 63). Lower calyptra small to very small . . 5

5(6). Hind tibiae with a distinct *pd* seta. Calyptrae very small, the lower one not projecting. Abdomen with a median vitta and paired spots. Femora with rather few outstanding setae, the *ad* row on hind femora consisting of five to six setae . . . . . *microcalyptra* sp. n., p. 150

6(5). Hind tibiae without a *pd* seta. Calyptrae small, though much more conspicuous, the lower one slightly projecting. Abdomen entirely dark dusted on dorsum or with pale dusted margins. Femora with more numerous outstanding setae, the *ad* row on hind femora consisting of seven or more setae.

7(8). Three or four pairs of inclinate frontal bristles. Arista distinctly pubescent, the longest hairs as long as the thickened base is wide. 2·6–3·5 mm. ♂: mid-femora covered with the normal sparse setulae up to apex, femora and abdomen with the normal setae and setulae *fordi* sp. n., p. 151

8(7). Five to seven pairs of inclinate frontal bristles (Fig. 63). Arista almost bare, the longest hairs shorter than the basal diameter of the arista. 3·3–4 mm. ♂: mid-femora on apical two-fifths of anterior surface with an elongate area, devoid of setulae but adorned with dense short brown microscopic pile; femora (and abdomen) with numerous, long, fine, erect, curved bristly hairs . . . . *tomentigera* sp. n., p. 152

Coenosia aurifacies sp. n. ♂ ♀

Length 3·0–3·5 mm.; *of wings* 2·8–3·5 mm.

♂. *Head* black, densely grey dusted, frons and face golden-grey dusted, interfrontalia black in a strictly dorsal view, golden-grey when seen from in front. Frons parallel, slightly wider than one eye, fronto-facial stripe very slightly narrowed not quite to apex of second antennal joint, rather strongly dilated in an almost straight line from there to lower margin of eyes, where it is distinctly wider than at vertex; parafrontalia half as wide as interfrontalia, with three inclinate setae (and one or two minute hairs). Inner vertical strong, outer vertical moderate, postverticals and ocellars moderately strong. Antennae fuscous, the second joint whitish-grey dusted interiorly at apex, third joint two and a half times as long as wide, reaching ventral sixth of eyes, the latter not quite reaching level of mouth-margin, apex of antennae thus not much more distant from base of arista than from mouth-margin; arista sparsely very short-haired, the longest hairs hardly as long as the basal diameter of the

arista. Parafacialia almost half as wide as the third antennal joint, jowls slightly wider than it.

Thorax black, densely grey-dusted, dorsum with three faint, narrow vittae, the median one reaching base of scutellum, the others subinterrupted, running from first to last *dc*. *acr* fine and sparse, in two rows, 1 + 3 strong *dc*, two strong *ia*; scutellum with a few setulae and the normal two pairs of strong setae, the lateral pair slightly shorter. Two rather strong propleurals and prostigmatals, the lower prostigmatal curved downward. *stpl* in a triangle, the anterior side of which is much shorter than the two others, lower *stpl* considerably shorter, posterior one somewhat longer and stronger than the anterior *stpl*.

Abdomen black, densely grey dusted, shorter than thorax, oblong-oval, strongly compressed at apex; second to fourth segments with a narrow, dark brown median vitta and second and third each with a pair of round, dark brown spots; setae of second segment indistinct, third with a transverse row of three pairs of moderate setae, fourth with a similar row of strong setae and a marginal row of moderate setae, fifth with two pairs of setae, the interior pair finer. Hypopygium rather strongly protruding, subglobular and densely grey dusted in dorsal half, tapering, black and shining towards venter.

Legs entirely pale ferruginous, except for the coxae which are black and densely grey dusted. Front femora with a *pd* row of about eight setae, the four distal ones rather strong, and a *pv* row of 6–7 moderately fine though somewhat longer setae, front tibiae with a rather short *pv* submedian seta; mid-femora with two stronger *a* setae near middle and an *a*, *pd* and *p* preapical, two *pv* setae are slightly longer than the femoral diameter, mid-tibiae with a *pd* slightly beyond middle and an *ad* slightly more apicad; hind femora with seven rather strong though not very long *ad*, the last of them developed as a preapical, a strong *av* on basal third and two in apical half, the other setae of the *av* row small, a *pd* preapical, and a strong *pv* at second fifth, hind tibiae with a strong *ad* in middle, without an *av* or *pd* seta.

Wings hyaline, veins testaceous, costa with a small costal spine, r_{4+5} and *m* parallel, almost inappreciably diverging at extreme apex, *r–m* at three-fifths of discal cell. Calyptrae whitish-hyaline with pale yellowish border, the lower one strongly protruding, parallel, broadly rounded at apex. Halteres pale yellow.

♀ similar to male, the pruinosity somewhat more yellowish, abdomen pointed at apex, more depressed and broader, the second segment with distinct setae near sides. Front femora with a blackish streak on posterior surface, mid and hind femora with a not very conspicuous, brownish, incomplete ring on second third. Hind tibiae with a rather strong though not very long *av* seta not much beyond the *ad*.

KENYA: Aberdare Range, Nyeri Track, 10500 ft., x.1934 (*F.W.E.*) ♂ type;

Chyulu Hills, 5200 ft., v.1938 (Coryndon Memorial Museum, Nairobi), ♀ paratype.

Coenosia heterocnemis sp. n. ♂ ♀

Length 3·9–5·5 mm.; *of wings* 4·2–6 mm.

♂. *Head* black, densely grey or bluish-grey dusted, interfrontalia black with strong brown reflections when seen from in front, parafrontalia grey dusted, with the interior margin brownish dusted, sometimes entirely brown dusted. Frons very slightly narrowed to vertex, somewhat broader than one eye in front, longer than wide; fronto-facial stripe distinctly though slightly narrowed to beyond base of arista and rather strongly widened to lower margin of eyes, where it is wider than frons; parafrontalia a quarter to a third (near frontal triangle) as wide as interfrontalia, with three (and 1–2 minute) inclinate frontal setae and a few minute hairs on outer anterior part. Inner vertical strong, outer vertical moderate or weak, postverticals and ocellars rather strong. Antennae black, not quite reaching lower margin of eyes, the latter not quite reaching level of mouth-margin, second joint silver-dusted interiorly at apex, third joint not quite thrice as long as wide; arista short-haired on dorsal surface, the longest hairs slightly longer than the basal diameter of the arista, the ventral hairs extremely short and sparse. Palpi black. Parafacialia a third as wide, jowls slightly wider than third antennal joint.

Thorax black, grey or bluish-grey dusted, dorsum brownish-grey dusted with five narrow brown vittae, beginning at *prst dc*, the median one often obsolescent behind middle. *acr* fine and small, in two rows, some additional hairs behind middle, 1+3 strong *dc*, two moderate *ia*; scutellum sparsely setulose with the normal two pairs of strong setae, the lateral pair slightly shorter. Two rather strong propleurals and prostigmatals, the lower prostigmatal seta curved downward, not surrounded by hairs. *stpl* in an equilateral triangle which is almost or entirely bare, the lower and anterior *stpl* subequal, rather strong, the posterior one very strong.

Abdomen oblong-oval, as long as the thorax, distinctly depressed at base and compressed at apex, densely grey dusted, with a more or less faint brown median vitta and a pair of usually large, roundish to subquadrate spots on segments 1–4. Lateral setae distinct on these segments though not very strong on the third and especially second segments, fifth segment with a pair of discal and two pairs of marginal setae.

Legs moderately short, pale ferruginous, the front coxae dusted, the mid and hind coxae usually grey and dusted, the front femora sometimes greyish and dusted towards base of dorsal surface, the mid and hind femora sometimes infuscate near apex of dorsal surface, tarsi more or less infuscate and dusted. Front femora with 4–5 strong *pd* setae (and 1–2 weak ones near base) and 5–6 rather long *pv* setae which alternate with small ones, front tibiae with a

moderate *pv* seta, mid-femora with 2–3 strong *a* setae near middle and second third, 2–3 *av* near base, four *pv* near base and two (*pd* and *p*) preapical setae, mid-tibiae with a moderate *pd* seta somewhat beyond middle and an *ad* slightly more distad; hind femora with about seven strong *ad*, the last one a preapical, 3–4 strong and several small *av*, including a strong preapical, one long *pv* seta on second fifth, and a *pd* preapical, hind tibiae with a small *pd* and a rather strong *ad*, usually level with each other and almost in middle.

Wings hyaline, very slightly smoky, veins brown, r_{4+5} and *m* very slightly converging to very slightly diverging at apex, *r–m* at three-fifths of discal cell. Calyptrae hyaline with yellowish border, small, but the lower one distinctly projecting beyond the upper one, not very narrowly rounded at apex, though subtriangular. Halteres testaceous.

♀ with the third antennal joint two and a half to three times as long as wide, reaching lower eighth of eyes, jowls as wide as to one and a half times as wide as the third antennal joint, fourth abdominal segment with a transverse row of 2–3 pairs of strong discal setae, hind tibiae with a well developed *av* seta somewhat beyond the *ad*.

KENYA: Aberdare Range, Mt. Kinangop, 10,000 ft., x.1934 (*F.W.E.*) ♂ type, 8 ♂ 11 ♀ paratypes; 8000 ft. (*J. Ford*) 1 ♀ paratype; 9000 ft., in cedar forest, 27.x.1934 (*F.W.E.*) 4 ♂ paratypes; 12,000 ft. 1 ♂ 4 ♀ paratypes; 13,000 ft., on *Senecio brassicaeformis* or *aberdarica*, 28.–30.x.1934 (*J. Ford*) 3 ♀ paratypes; above Nakuru, ca. 9300 ft., on *Lobelia aberdarica*, 6.iii.1935 (*F.W.E.*) 3 ♂ 3 ♀ paratypes; Nyeri Track, 10,500–11,000 ft., 28.x.1934 (*F.W.E.*) 5 ♂ 7 ♀ paratypes. Mt. Elgon, alpine zone, 12,000–13,000 ft., ii.1935 (*F.W.E.*) 3 ♂ 3 ♀ paratypes; heath zone, 10,500–11,500 ft. 3 ♂ 5 ♀ paratypes.

The infuscation of the dorsum of the femora varies in the same locality though it seems to affect a larger proportion of the Elgon specimens. In one of the males from Mt. Elgon the *av* seta of the hind tibiae is present (on both sides). In Abyssinian specimens the lower calyptra is still considerably smaller (see Emden, 1940, Ann. Mag. nat. Hist.).

Coenosia heterocnemis brunneigena ssp. n.

♂. Structural characters as in typical *C. heterocnemis*, but face, parafacialia and jowls brown-dusted, the *r–m* vein runs to the middle of the discal cell, and mid and hind femora with short, but strong apical infuscation; this infuscation occupies about the apical sixth and is not confined to the dorsal surface, but reaches more or less the ventral surface, whereas in the typical form it is much longer and narrower, and not so conspicuous. The jowls are distinctly narrower than the third antennal joint.

UGANDA: Ruwenzori, Nyamgasani Valley, 8000–9000 ft. (*D. R. Buxton*), ♂ type.

Coenosia microcalyptra sp. n. ♀

Length 3·4 mm.; *of wings*, 3·0 mm.

Head black, brown dusted, face, parafacialia and jowls brownish-grey dusted, interfrontalia black, with strong brown reflections when seen from in front. Frons parallel, considerably wider than one eye, very slightly narrowed anteriorly not quite to apex of second antennal joint, from where the fronto-facial stripe is evenly widened with almost straight sides to lower margin of eyes, where it is a quarter wider than at vertex; parafrontalia a third as wide as interfrontalia, with two large, two moderate and a few minute inclinate setae and one pair of reclinate (on one side two pairs, the anterior one longer) frontal setae. Inner vertical strong, outer vertical rather strong, postverticals rather strong, ocellars very strong and long (slightly longer than the inner verticals), strongly diverging. Antennae black, second joint grey dusted interiorly at apex, third less than two and a half times as long as wide, reaching approximately ventral eighth of eyes, the latter falling far short of level of mouth-margin, apex of antennae almost as distant from mouth-margin as from base of arista; the latter very short-haired throughout, the longest hairs of ventral surface distinctly shorter, of dorsal surface slightly longer than basal diameter of arista. Parafacialia more than half as wide as the third antennal joint, jowls almost twice as wide as third antennal joint.

Thorax black, dark brown dusted, the pleurae greyish-brown dusted, dorsum with three not very conspicuous, darker brown, narrow vittae and traces of a lateral pair. *acr* sparse and fine, in two rows, 1+3 strong *dc*, two moderate *ia*; scutellum with a few single setulae and the normal two strong pairs which are very long, as are the second postalar and the *sa*. One moderate and one rather small propleural, upper prostigmatal rather strong, lower one fine, curved downward. *stpl* in an almost rectangular triangle, the posterior side longer, the anterior one shorter than the upper one, area devoid of setulae, lower *stpl* somewhat weaker than the two others which are strong.

Abdomen black, rather depressed, suboval, densely greyish-brown dusted, with a moderately narrow median vitta on segments 1–4 and a pair of rather large, subquadrate dark brown spots on second and third segments and a small one on first segment; lateral setae rather indistinct, except on fourth segment.

Legs wholly black, coxae densely, femora moderately dusted, tibiae and tarsi slightly dusted. Front femora with a *pd* and *pv* row of six setae each, the basal 2–3 weak, front tibiae with a moderate *pv* near middle, mid-femora with four small *a* and one stronger *a* preapical seta, one strong *av* seta almost at basal third, one long *pv* at second fifth and two preapicals (*pd* and *p*), mid-tibiae with a rather strong *pd* and *ad* almost level with each other at middle; hind femora with seven *ad*, the strongest ones towards apex, ending in an *ad* preapical, a strong *av* at a third, another strong one at second third and a

strong *av* preapical, a strong *pv* on second fifth, and a rather weak *pd* preapical, hind tibiae with a rather small submedian *pd* (on one side with another very small one basad of it), a strong *ad* level with the *pd*, and a fine *av* somewhat beyond the other submedian setae. The tibiae with a small additional preapical seta (besides the *d* and *pd* on the front, *d* on the mid, and *d* and *ad* preapicals on the hind tibiae) to the other side of the *d* preapical (on the mid-tibiae on the *pd* surface).

Wings rather strongly smoky, somewhat more so towards costa, somewhat less towards hind margin, veins brown, r_{4+5} and *m* quite parallel for a considerable distance at apex, *r–m* slightly beyond middle of discal cell. Calyptrae very small, the lower one not projecting, even smaller than the upper one, borders brown with brownish fringe. Halteres pale reddish.

KENYA: Mt. Elgon, alpine zone 12,000–13,000 ft., ii.1935 (*F.W.E.*) ♀ type.

Coenosia fordi sp. n. ♂ ♀

Length 2·6–3·5 mm.; *of wings* 2·7–3·7 mm.

♂. *Head* black, densely grey dusted, upper part of occiput and frons brown dusted, interfrontalia black in a strictly dorsal view, brown in anterior view, face and parafacialia yellowish-grey dusted. Frons subparallel, inappreciably narrowed at extremities, longer than wide; fronto-facial stripe distinctly narrowed to apex of second antennal joint, rather strongly widened to lower margin of eyes, where it is wider than frons; parafrontalia a third as wide as interfrontalia, with 3–4 inclinate frontal setae. Inner vertical strong, outer vertical and postverticals rather strong, ocellars very long, longer than the inner verticals, very strongly diverging. Antennae fuscous, almost reaching lower margin of eyes, the latter not quite reaching level of mouth-margin, apex of third antennal joint distant from mouth-margin by about width of antennae, second joint silver-dusted interiorly at apex, third joint not quite thrice as long as wide, with yellowish-grey reflections on inner surface of basal half; arista short-haired, the longest hairs on dorsal surface as long as the diameter of the thickened base. Palpi black. Jowls one and a half times as wide as the third antennal joint.

Thorax black, dorsum densely dark brown dusted without vittae, pleurae densely grey dusted. *acr* sparse but rather strong, in two rows, 1+3 strong *dc*, two strong *ia*; scutellum with a few single setulae and the normal two pairs of strong setae, the lateral pair slightly shorter. Propleural and upper prostigmatal setae moderately strong, lower prostigmatal curved downward, not surrounded by hairs. *stpl* in an equilateral triangle which bears a few erect hairs, lower *stpl* moderately strong, the others strong and subequal.

Abdomen depressed, oblong-oval, uniformly dark brown dusted, only the sides and base more greyish dusted, as is the venter. Lateral setae rather fine

though distinct on segments 1–3, somewhat stronger on the fourth, fifth segment with two pairs of setae and some fine hairs, some of which are half as long as the longer setae.

Legs rather short, wholly black, greyish dusted, only the knees very narrowly yellowish. (Front legs of type missing, but no doubt as in female: front femora with 6–7 moderately strong *pd* and *pv*, tibiae with a moderate *pv* beyond middle), mid-femora with three rather weak *a* bristles on middle half, three rather long *av* in basal half, three rather long and a few short *pv*, the long ones on middle half, and two preapicals (*p* and *pd*), mid-tibiae with a fine *ad* and *pd* practically on the same level slightly beyond middle. Hind femora with 7–8 rather strong *ad*, 6–7 *av* and a *pd* preapical, hind tibiae with a rather strong *ad* seta in middle and a rather fine *av* seta considerably beyond it.

Wings subhyaline, slightly smoky, strongly iridescent, veins brown, r_{4+5} very slightly converging to apex, *r–m* just beyond second fifth of discal cell. Calyptrae whitish-hyaline with pale-brown border, small, the lower one subtriangular, slightly projecting, rather narrowly rounded at apex. Halteres yellow.

♀ similar to male, the face greyish dusted, abdomen pointed, *r–m* slightly before or at middle of discal cell.

UGANDA: Kigezi District, summit of Mt. Sabinio, 11,000–11,500 ft., xi.1934 (*J. Ford*) ♂ type; Mt. Mgahinga, 11,000 ft., 22.xi.1934 (*F.W.E.*) 3 ♀ paratypes; Mt. Muhavura, 10,000–12,000 ft., xi.1934 (*F.W.E.*) 1 ♀ paratype (headless).

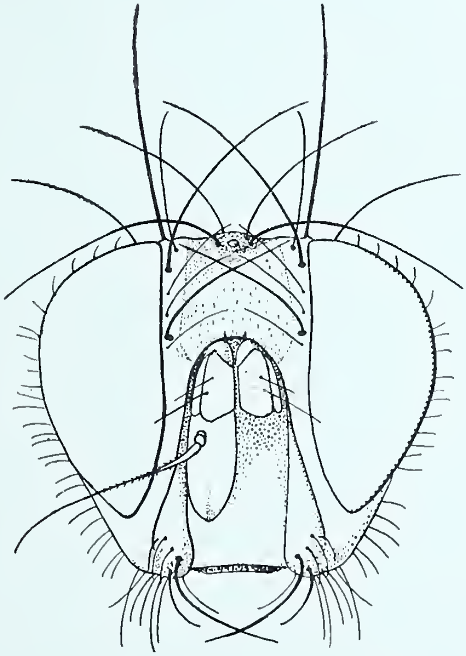
Coenosia tomentigera sp. n. ♂ ♀

Length 3·6–4·3 mm.; *of wings* 3·8–4·4 mm.

♂. *Head* (Fig. 63) black, densely grey dusted, the interfrontalia dull black in dorsal view, with strong brown reflections in anterior view, the median dorsal part of occiput and the frons dark brown dusted. Frons subparallel, slightly wider than one eye, longer than wide, fronto-facial stripe hardly narrowed to apex of second antennal joint, rather strongly widened with almost straight sides to lower margin of eyes, where it is a third wider than at frons; parafrontalia a third as wide as interfrontalia, with 5–7 very fine though rather long inclinate frontal setae. Inner vertical strong, outer vertical rather strong, postverticals rather strong, ocellars very long and strong, slightly longer, stronger and more curved than the inner verticals, very strongly diverging. Antennae black, second joint grey dusted interiorly at apex, third less than two and a half times as long as wide, slightly acuminate dorsally at apex, with brown and whitish reflections, almost reaching level of ventral margin of eyes, apex almost as far from mouth-margin as from base of arista, the latter very short-haired throughout, the longest hairs on ventral surface much shorter,

those on dorsal surface slightly shorter than basal diameter of arista. Parafacialia not quite half as wide as the third antennal joint, jowls one and a half times as wide as it.

Thorax black, dark grey dusted, with three narrow, faint, brown vittae, pleurae densely grey dusted. *acr* fine and sparse, though rather long, in two rows, 1+3 very long *dc*, two rather long *ia*; scutellum with a few setulae and the two normal pairs of setae. One moderate propleural seta, two rather strong



63.

FIG. 63.—Head of *Coenosia tomentigera* sp. n., front view.

prostigmatal setae, the lower one curved downward. *stpl* long, in an equilateral triangle, which bears a few long hairs, lower *stpl* somewhat shorter, posterior one somewhat longer and stronger than the anterior one.

Abdomen rather depressed, oblong-oval, dark brown dusted on dorsum, sides, base and venter dark grey dusted, with rather numerous fine and long hairs on sides and venter, the lateral setae not much stronger, hairs on dorsum rather short and appressed, fifth segment with a pair of discal and two pairs of marginal fine setae, and with a few rather long hairs.

Legs wholly black, with rather numerous fine and very long setae, front femora with about eight *pd* and *pv* setae, the latter very long, all the posterior

surface clothed with similar long fine setae, among which a *p* row of five especially long ones in basal half is striking, front tibiae with a fine, moderately long *p* seta just beyond middle; mid-femora with four long *a* and very long *av* setae in basal half, about eight very long and fine *pv* setae and four preapical setae on *pd* and *p* surfaces, but without *ad* setae, the apical two-fifths of the anterior surface without hairs, but covered with dense, short, dark brown tomentum, mid-tibiae with rather long but very fine submedian *pd* and *ad*, the former just beyond middle, the latter slightly farther on; hind femora with about ten long and fine *ad* and *av* setae, the anterior surface beset with rather numerous similar setae, hind tibiae with a long *ad* seta beyond middle and a shorter *av* almost at second third.

Wings hyaline, very slightly smoky, veins brown, r_{4+5} and *m* parallel or slightly diverging at apex, *r–m* at or slightly beyond middle of discal cell, alula with a fringe of about a dozen very long and fine hairs. Calyptrae whitish-hyaline with yellowish border. Halteres yellow.

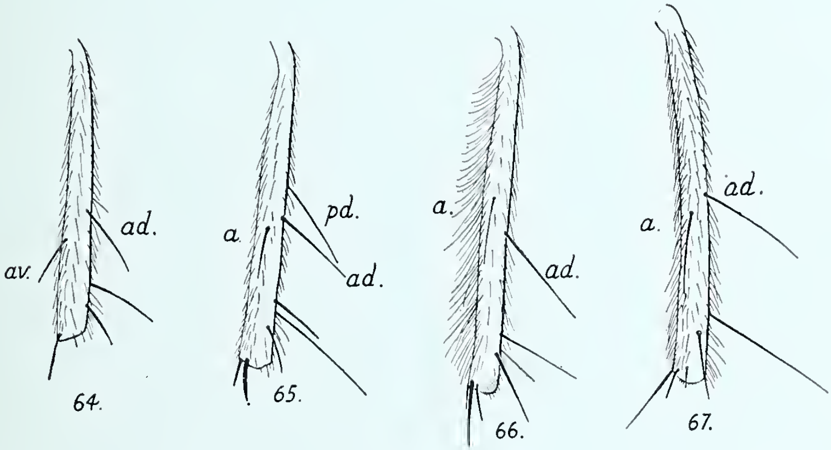
♀ similar to male, the margin of the eyes below the antennae more rounded, all the setae somewhat shorter and stronger, the hairs on the *p* surface of the front and the *a* surface of the hind femora much shorter than in male, very distinct from the setae, though longer than usual, mid-femora without the patch of tomentum; abdomen pointed, without the long hairs at sides and venter, the lateral setae not very strong, somewhat longer on third segment and rather strong on fourth, on which two lateral discal pairs are conspicuous.

UGANDA: Ruwenzori, Nyamgasani Valley, 12,000–13,000 ft. (*D. R. Buxton*) ♂ type, 2 ♂ 3 ♀ paratypes.

Caricea R.–D.

The names *Coenosia* Meig. 1826 and *Caricea* R.–D. 1830 are here used in the same sense as by Stein, Malloch, and others, and the type-fixations of Rondani are accepted. Huckett in his excellent revision of the North American *Coenosia* (1934, Trans. Amer. Ent. Soc. 60:57–119, 133–198) uses *Coenosia* for *Caricea* auct. and *Limosia* for *Coenosia* auct., accepting an earlier type-fixation by Westwood (1840, Introd. Classif. Ins. II, Synops. Gen. p. 143). This change is, however, not justified in my opinion. For the species with long-haired arista had in 1830 already been united in a separate genus *Caricea* by Robineau-Desvoidy, so that *tigrina* F., to which one of the species described by Robineau-Desvoidy as *Caricea* had been synonymized as early as 1835 by Macquart (Hist. nat. Ins. Dipt. 2 : 344) should not have been used in 1840 as genotype for the old genus *Coenosia*. Huckett discusses this fact, but remarks correctly that this recommendation contained in the present rules of nomenclature would hardly invalidate Westwood's fixation. On the other hand, it is proved

by Huckett and evident from the descriptions that Meigen's *tigrina* is identical with *tigrina* F. This implies, however, that *Westwood's genotype of Coenosia is not the true tigrina F.*, for in making *tigrina F.* the genotype of *Coenosia*, Westwood mentions expressly that "*C. tigrina* Meig. belongs to the s.g. *Caricea* R.D." As *Caricea* was then distinguished from *Coenosia* by the long-haired arista, this means that to Westwood the species of Meigen and Fabricius were quite different, and belonged respectively to *Coenosia* and *Caricea*, i.e. that *tigrina* Meig., sensu Westwood was a species with long aristal hairs such as was later designated as type of *Caricea* by Rondani (1856), whereas *tigrina* F. sensu Westwood must be a species with short hairs of the arista. It is impossible



FIGS. 64–67. Left hind tibiae, anterior view. 64.—*Coenosia heterocnemis* sp. n. 65.—*Caricea transversalis* sp. n. 66.—*Caricea calopoda* Bezzi. 67.—*Caricea aequivitta* sp. n.

to find out which species the misidentified *tigrina* F., Westwood really was (though it must have been one of the other larger species, which belong all to *Coenosia* sensu Stein, probably *intermedia* Fall.), and Westwood's type-fixation can, therefore, not be accepted, so that Rondani's (1866) fixation of *geniculata* Fall. is valid as genotype of *Coenosia* (his former—1856—fixation of *sexmaculata* Meig., being inacceptable, as the species was not contained in Meigen's paper of 1826).

Robineau-Desvoidy, Meigen, Macquart, Rondani, Meade and others distinguished *Caricea* from *Coenosia* by the longer hairs of the arista, but Stein (1898, Berlin. Ent. Zschr. 42: 257, note) regarded as *Caricea* those *Coenosia* which were characterized by a laterally compressed head, appreciably shortened antennae, and strikingly long setae of the tibiae. He mentioned the European

species *tigrina* Mg., *nana* Zett. (=*humilis* Meig.), and *cingulipes* Zett. (Stein, non Zett.,=*strigipes* Stein) as belonging to *Caricea*, to which list I am for the time being only able to add *atra* Meig. Later on Stein considered *Caricea* a synonym of *Coenosia*, and so did most of the other authors. In 1922 (Ann. Mag. nat. Hist. (9) 10: 576) Malloch separated the African *Caricea* from *Coenosia* by the two very long bristles at middle of hind tibiae, "the bases of which are very close together, one on the antero-dorsal and the other on the anterior or antero-ventral surface", whereas in *Coenosia* the hind tibiae have "one long strong bristle on antero-dorsal and a weaker bristle on the antero-ventral surface, the latter nearer apex than the former". The large material, which I have worked out, suggests slight alterations in these definitions, as the bases of the setae on the anterior surface of the hind tibiae in *Caricea* may sometimes be as widely separated as in *Coenosia* (e.g. in *Caricea calopoda* Bezzi and *aequivitta* m., Figs. 66 and 67, closely related to species in which the setae are close together), and as in *Caricea* the seta is always inserted on the anterior and never on the antero-ventral surface, the decisive character for the discrimination between *Caricea* and *Coenosia* thus being the anterior position in the former genus and antero-ventral in the latter of that seta which is usually but not always very close to the antero-dorsal seta of the hind tibiae in *Caricea*. I was glad to find at an advanced stage of this paper that Malloch (1921, Ent. News 32: 107) and Huckett in their studies on the North American Coenosiinae have come to the same definition, except for some differences in the rank of the different units and, as far as Huckett is concerned, in the names used.

On species without an *av* or *a* seta and with a *pd* seta on the hind tibiae Malloch founded the genera *Xenocoenosia* and *Neodexiopsis* respectively. I do not know the American genotypes of these groups, but as far as African species with the same characters are concerned, the females of those males which lack the *a* or *av* seta show the characters of *Coenosia* or *Caricea* quite unequivocally, and the *pd* occurs in both genera and is in my opinion not a generic character. I do not think it right either to erect separate genera on those species with only two *post dc* or one pair of scutellar setae, which are in all other regards typical *Caricea*.

Caricea is by far the largest genus of Coenosiinae in the Ethiopian region, and the following key contains, therefore, the groups of species and the isolated species, whereas keys to the single groups are being presented at the beginning of each group. The submedian *pv* seta of the front tibiae is present in all species, unless otherwise stated.

The following species of "*Coenosia*" described from the Ethiopian region, which may be expected to belong largely or all to *Caricea*, are unknown to me and could not be incorporated in the key (references given, as far as not contained in Séguy, 1937, Gen. Ins. fasc. 205).

africa Curr. (*Xenocoenosia*) N.W. Tanganyika (1935, Amer. Mus. Novit. 776: 12), see note, p. 145.

albipila Stein. S. America or Africa (hardly East African).

(*cyclophthalma* Thoms. not a Coenosiine, as four *post dc* are present).

gigas Beck. Kenya. *calopoda* group?, apparently similar to *atroapicata*.

graueri Curr. Tanganyika. *calopoda* group? (1935, Amer. Mus. Novit. 776: 8).

inversa Wied. Cape. *calopoda* group?

laxifrons Curr. Pretoria. =*fascigera* Stein? (1935, Amer. Mus. Novit. 776: 4).

morops Ség. (*Hoplogaster*). Kenya. *vittata* group near *vittata*? (1938, Miss. scient. Omo, 4, Zool.: 367).

trichopyga Loew. Mozambique.

Key to the Groups and Isolated Species of Ethiopian Caricea

1(8). Hind tibiae with a distinct submedian *pd* seta (Fig. 65).

2(3). 1+2 *dc*. Postsutural part of mesonotum with a broad, dark-brown dusted, transverse band touching suture along front margin. Calyptrae rather small, lower one narrowly rounded. Hind tibiae with the *pd* basad of the anterior pair of bristles and with three preapicals. Legs almost entirely black. . . . . . . *transversalis* sp. n., p. 160

3(2). 1+3 *dc*.

4(5). Postsutural part of mesonotum with a broad, dark transverse band, touching suture along front margin. Third antennal joint very long and broad, almost reaching mouth-margin, arista almost bare. Legs yellow, dorsal surface of all the femora infuscate, joints 2–5 of the front tarsi (♂) dilated and soled, joints 2–4 with the basal half deep black and the apical half white, fifth joint almost entirely black with the pulvilli white. *pd* seta of hind tibiae well basad of *a* and *ad*. [*poecilotarsis* sp. n.], p. 161

5(4). Pattern of thorax longitudinal, or absent. Front tarsi not so spotted.

6(7). Scutellum with the lateral pair of setae only, which are very strong; the apical pair absent. Lower prostigmatal bristle absent. Jowls almost absent, not wider than the base of the palpi. Front tarsi very long, the *pd* of the hind tibiae much beyond the other setae, the *a* slightly beyond the *ad*. Thorax with five narrow brown vittae. Legs yellow with tarsi and apex of posterior femora piceous. . . . *scutellaris* sp. n., p. 162

7(6). Scutellum with four strong setae, or two strong apical and two weak lateral bristles. Lower prostigmatal bristle present. . *vittata* group, p. 164

8(1). Hind tibiae without a *pd* seta (Figs. 66, 67).

9(10). Scutellum with the *lateral* pair of setae only, which are very strong, the apical pair absent. Jowls well developed, as wide as the third antennal joint. Prostigmatal bristles well developed, surrounded by a few small hairs. Thorax with five brown vittae. Legs yellow with the tarsi and the apex of the femora piceous. . . . . . *bipila* sp. n., p. 175

10(9). Scutellum with four strong setae, or the *apical* pair only strongly developed.

11(28). Legs more or less yellow, at least one pair of femora more or less broadly yellowish translucent at *base*, or one pair of tibiae yellowish in middle or at tip. Halteres yellow.

12(27). The narrowest point of the fronto-facial stripe is almost at or above the base of the antennae; if it is below the base, then the stripe only slightly narrower there than at the antennal base, and the eyes distinctly more widely separated at ventral apex than at dorsal apex (Figs. 66, 67, 74–76). Antennae inserted between middle and second fifth of eyes (except in *mgahingana*, where the antennae and face are rather long), face not much longer than frons. Jowls often as wide or wider than the third antennal joint.

13(16). All the femora entirely black, except sometimes at *apex*. Tibiae never entirely black.

14(15). Frons half as wide as one eye, seldom much wider, but then the size not over 4 mm. (*inanis*) or the parafacialia very narrow (*trichocnema*). The parafrontalia and frontal triangle always pale dusted, the interfrontalia smooth (Fig. 74). . . . . *humilis* group, p. 176

15(14). Frons almost or fully as wide as one eye. Six or more pairs of inclinate frontal bristles, of which three pairs are long and decussate. Large species of 5–8 mm. length. Parafacialia never much narrower than the third antennal joint. The parafrontalia and frontal triangle usually velvety dark dusted as are the interfrontalia, the latter usually longitudinally rugose in front. Claws and pulvilli very large, not appreciably shorter, or even longer than the third tarsal joint. . . *tigrina* group, p. 180

16(13). The mid and hind femora at least yellow at *base*.

17(18). Arista with very long hairs, the longest about as long as the third antennal joint (Fig. 71). Palpi pale yellow, even at apex. Vibrissae black. Hind femora with two preapical *pd* not far behind each other. The *a* and *ad* setae of the hind tibiae level with each other. Third antennal joint fuscous, grey dusted, often somewhat translucent towards apex. Prostigmatal bristles surrounded by a few small hairs. Thorax with or without three faint narrow longitudinal vittae, abdomen with a faint median vitta on segments two to four, and a distinct pair of spots on segments two and three or two to four. Legs (except mid, hind, and part of front coxae) entirely yellow, with a small brown point on the mid and hind femora at articulation with tibiae, and with at least the last joint of tarsi strongly infuscate; front femora sometimes with a dark shadow near base along exterior surface. . *pachypoda* Big., p. 185

18(17). Arista at most short-plumose, the longest hairs never much longer than the third antennal joint wide. Palpi brown with piceous apex, very seldom yellow, but then the third antennal joint is pale yellow. Hind femora normally with one preapical *pd* bristle.

19(20). Small species of 2·5–4 (seldom up to about 5) mm. length. Hind coxae with one outstanding (and one or two small) hairs on outer hind margin. *pv* seta of front tibiae present. . . . . *strigipes* group, p. 186

20(19). Larger species of (4·5–) 5–9 mm. length. Hind coxae with two or three outstanding (and one or several small) setulae on outer hind margin, except if no *pv* on front tibiae and only two scutellar bristles are present.

21(22). Front tibiae without a *pv* seta. Scutellum with the apical setae only. Hind

coxae with one outstanding bristle on outer hind margin, though a small but rather stout one is close to it. m_3+cu_1 strongly thickened and fuscous near base (♂). Legs, including coxae, entirely yellow, but tarsi strongly infuscate, femora and tarsi very long and slender. . *aseta* sp. n., p. 194

22(21). Front tibiae with a *pv* bristle. Scutellum with four setae. Hind coxae with two outstanding setae and a few smaller ones.

23(24). Tibiae yellow, sometimes more or less infuscate. First *post ia*, if present, level with *sa*. Parafrontalia pale dusted . . *calopoda* group, p. 196

24(23). Tibiae entirely black. First *post ia* before level of *sa*. Parafrontalia and interfrontalia equally dark dusted. Mesonotum entirely dark dusted, except on the sides along humeri and notopleurae.

25(26). Third antennal joint short, about half as long as the face, antennae inserted at second fifth. Anterior *ia* closer to level of *sa* than of first *post dc*. *a* bristle of hind tibiae absent in male (always?), *pv* of front tibiae strong. Face dark golden dusted. . . . *nigritibia* sp. n., p. 208

26(25). Third antennal joint long and broad, almost reaching mouth margin, antennae inserted at dorsal quarter of eyes. Anterior *post ia* practically level with first *post dc*. *a* bristle of hind tibia distinct, *pv* of front tibiae weak in male. Face silver dusted. . *mgahingana* sp. n., p. 210

27(12). The narrowest point of the fronto-facial stripe is well below the base of the antennae, the stripe there not much more than half as wide as at vertex, distinctly narrower there than at the base of the antennae (Fig. 77). The eyes as distant at dorsal extremity as at ventral extremity, frons widened to vertex. Antennae inserted at dorsal third of eyes, which are very large and elongate, face very narrow, much longer than frons. Parafacialia very narrow, much narrower than the third antennal joint. Jowls always much narrower than the third antennal joint, the latter very slender, usually about four times as long as wide or even longer. . . . . *rebmanni* group, p. 211

28(11). Legs entirely black, except sometimes for the coxae and trochanters and the base of the tibiae.

29(30). Third antennal joint very long and slender, more than four times as long as wide, pointed at apex of dorsal side, antennae inserted at dorsal third of eyes. Halteres black. Fronto-facial stripe distinctly narrower beneath base of antennae than at their base (Fig. 78). Submedian setae of tibiae extremely long, some of them about three-quarters as long as the tibiae.[1] Anterior *post ia* rather long though fine. Anterior *stpl* much shorter than the two others. Parafacialia and jowls extremely narrow. Abdomen of male rather club-shaped and strongly curved downward. Frons slightly dilated to vertex. *morio* sp. n., p. 220

30(29). Third antennal joint about two to three times as long as wide, inserted at about middle of eyes, or halteres yellow.

31(32). Frons distinctly dilated from first frontal setae to vertex, often strongly dilated, uniformly dusted, the parafrontalia *not* differentiated by paler pruinosity, or the frons entirely silver-white dusted (Fig. 79). *niveifrons* group, p. 221

32(31). Frons subparallel to vertex or at least subparallel in its middle part, or

[1] These setae not more than three-fifths as long as the tibiae. Halteres yellow. See *rebmanni* group.

slightly narrowed to vertex, seldom slightly dilated to vertex, the parafrontalia *distinctly* differentiated by paler pruinosity though narrow, frons never entirely white-dusted (Fig. 80). *semifumosa* group, p. 234

Caricea transversalis sp. n. ♂ ♀

Length 4·3–4·7 mm.; *of wings* 3·9–4·2 mm.

♂. *Head* black, greyish pollinose, except on dorsal central part of occiput which is glossy blackish, interfrontalia which are dull black with strong light-brown reflections when seen from in front, parafrontalia and face which are yellowish-grey dusted. Frons subparallel, very slightly narrowed at hind end of eyes, as wide in front as one eye; fronto-facial stripe with the narrowest point just beneath the base of antennae, gradually widening to the lower end of the eyes, where it is hardly wider than in middle of frons; parafrontalia one-quarter as wide as interfrontalia, with two strong and one or two small inclinate frontal setae. Inner vertical strong, outer vertical weak, postverticals and ocellars moderate. Antennae fuscous, the second joint with a small spot of whitish dust interiorly at apex, third joint more than thrice as long as wide, not reaching lower margin of eyes, arista short-haired on more than basal half, the plumosity more than half as wide at base as the third antennal joint. Palpi fuscous. Parafacialia half, jowls one and a half times as wide as third antennal joint.

Thorax black, grey dusted, with a brown dusted, dark pattern, consisting of three spots in front of suture, the lateral ones between *dc*, *ph* and *prst* setae, and the median one from front end to suture or at least to beyond the *prst dc*, and a broad transverse band along posterior side of suture; this band reaches the infra-alar bullae and is usually connected on median line with the brown-dusted dorsal surface of scutellum. *acr* minute and sparse, in two complete rows, no *prsc*, 1+2 strong *dc*, one small *ia* (behind level of *sa*), scutellum sparsely setulose, with two pairs of strong, equal setae. Two propleurals, the lower one not much weaker, two prostigmatal setae, the upper one moderate, the lower one small, directed downward. *stpl* in a triangle, the anterior (lower) side of which is distinctly shorter than the posterior and still more than the upper side, devoid of setulae, the lower and anterior *stpl* equal, considerably shorter than the posterior one.

Abdomen black, grey dusted, with a complete, narrow median vitta and a pair of roundish spots on segments 1–4; these spots occupy the posterior part of the segments and reach the hind margin of at least the second and third segments, being at least narrowly connected with the median vitta on one or several segments; moderately slender, moderately convex on dorsum, slightly compressed at venter; second segment with one pair of lateral setae, third and fourth each with one pair of lateral and one pair of dorsal setae towards apex; fifth segment black with sparse dust, subglobular.

Legs black, coxae and femora grey dusted, tibiae reddish-piceous to black, the base reddish; front femora with approximately eight fine short *av* setae in basal half and 6–7 rather long *pv*, front tibiae with a moderate submedian *pv*, mid-femora with an isolated strong submedian *av* and two preapical (*p* and *pd*) setae; mid-tibiae with rather strong *ad* and *pd* setae, the former more apicad, hind femora with five rather strong *ad* setae and a *pd* preapical seta, about five *av* setae and one rather long though not very strong *pv* seta on second fifth, hind tibiae with one strong *pd* on second fifth, one *ad* just before middle and one *a* on middle.

Wings hyaline, slightly smoky, veins brown, r_{4+5} and *m* slightly converging owing to the curvation of the former, *r–m* slightly beyond middle of discal cell. Calyptrae whitish, rather small, but the lower one considerably projecting. Halteres pale yellow.

♀ differing from male only by the more depressed and pointed abdomen.

UGANDA: Kigezi District, Mt. Sabinio, 8000 ft., xi.1934 (*F.W.E.*) ♂ type, 1 ♀ paratype; Kanaba, 7800 ft., xi.1934 (*F.W.E.*) 2 ♀ paratypes; Lake Mutanda, 6000 ft., xi.1934 (*J. Ford*) 1 ♀ paratype. In two of the last-named specimens the median presutural spot is broader, fused with the lateral spots and not or only very narrowly connected with the transverse band, the latter not reaching scutellum.

[**Caricea poecilotarsis** sp. n. ♂]

Length 5 mm.; *of wings* 4·8 mm.

Head black, whitish-grey pollinose, except on median dorsal part of occiput, which is glossy blackish, and interfrontalia which are dull, almost velvety black with light brown reflections when seen from in front, their posterior corners and outer margin behind middle grey pollinose. Frons slightly though distinctly narrowed to vertex with straight sides, as wide in front as one eye, fronto-facial stripe widest at base of antennae, narrowed to middle of face, where it is as wide as at vertex, and widened again to epistoma; parafrontalia a third to half as wide as the interfrontalia, with two moderate and two small inclinate frontal setae. Inner vertical strong, outer vertical weak, postverticals and ocellars moderate. Antennae fuscous, the second joint grey dusted interiorly at apex, third joint four times as long as wide, slightly surpassing lower margin of eyes, arista sparsely haired dorsally in middle half, the longest hairs hardly as long as the base of arista wide. Parafacialia less than a third as wide below middle as third antennal joint, jowls as wide as third antennal joint.

Thorax black, whitish-grey dusted, with a brown dusted dark pattern, consisting of a pair of oblique, posteriorly diverging spots from neck to just beyond *ph* and *prst dc*, a brown spot around the anterior spiracle, a transverse band, connecting the bases of the wings along the suture, and another transverse

band across the scutellum, leaving the apical third of the latter pale but encroaching narrowly upon the posterior part of mesonotum. *acr* minute and sparse, no *prsc*, 1+3 strong *dc*, one moderate *ia* (behind level of *sa*); scutellum with the normal two pairs of strong setae. Two propleurals, the lower one much weaker, two prostigmatals, the upper one moderate, the lower one much weaker, curved downward. *stpl* in a triangle, the anterior side of which is shorter than the posterior and still more the upper side, devoid of setulae, lower and anterior *stpl* equal, considerably shorter than the posterior one.

Abdomen black, whitish-grey dusted, the second to fourth segments with a complete, dark, brown-dusted median vitta, the hind margin of the first to third segments each with a pair of transverse square to semicircular spots, which are narrowly connected with the median vitta on margin, on the fourth segment which is very short the apical half is occupied by a dark transverse band. Second segment with a pair of weak lateral setae, third and fourth each with a pair of strong lateral and paramedian marginals, fifth segment with a pair of strong lateral marginals.

Legs testaceous, the dorsal surface of the femora broadly and strongly infuscate (on the hind femora practically only the ventral part of the base remains yellowish), hind tibiae largely infuscate except for base, second to fifth joints of front tarsi dilated and soled, the second and third joints twice as long as wide, the last two shorter, joints 2–4 with the basal half deep black and the apical half whitish, fifth joint black, except for a very narrow whitish basal part; mid and hind tarsi yellow, narrowly blackish at base of second to fourth joints, apical joint black, pulvilli whitish. Front tibiae with a rather small *pv*, mid-femora with two (*p* and *pd*) preapicals, mid-tibiae with a rather weak *pd* beyond middle and a strong *ad* at three-fifths, hind femora with five rather strong *ad* setae, a *pd* preapical seta, three *av* and one long and fine *pv* seta, the latter on second fifth, the ventral surface of base with numerous fine, long, erect hairs, hind tibiae with a strong *pd* slightly basad of middle and a rather strong *ad* and *a* slightly beyond middle, the *a* slightly more apicad.

Wings hyaline, slender, veins testaceous, r_{4+5} and *m* parallel at apex, *r–m* beyond middle of discal cell. Calyptrae white, the lower one moderately projecting. Halteres pale yellow.

♀ unknown, probably with simple tarsi.

KENYA: Ngong, v.1936 (*Miss Steele*), ♂ type in B.M. (sent in by Coryndon Memorial Museum). The thorax of the specimen is badly broken, but all the more important characters are clearly visible.

Caricea scutellaris sp. n. ♂

Length 6 mm.; *of wings* 7·2 mm.

Head black, whitish-grey pollinose, the interfrontalia dull black with

brownish-white reflections, when seen from in front; frontal triangle yellowish-dusted anteriorly, very narrow, reaching middle of frons and continuing as a fine whitish line almost to lunula in anterior view. Frons parallel, narrow, one-fifth as wide as head, two-fifths as wide as one eye; fronto-facial stripe narrowest at base of arista, where it is a third as wide as one eye; parafrontalia a quarter the width of the interfrontalia, with two strong and one small inclinate frontal setae. Inner vertical very strong, outer vertical weak, postverticals moderate, ocellars rather weak. Antennae dark fuscous, second joint narrowly orange at apex, with a small spot of whitish dust interiorly at apex; third joint almost thrice as long as wide, just reaching lower third of eyes, distance between its apex and mouth-margin equal to its length; arista bare except near base, where it is short-haired, the longest hairs being slightly longer than the basal diameter of arista. Palpi fuscous. Parafacialia linear, jowls not wider than the base of the palpi.

Thorax blackish, somewhat pale above front coxae, whitish-grey dusted, the mesonotum brownish-grey dusted with five narrow longitudinal vittae, of which the median one is complete and extends to beyond middle of scutellum, whereas the vittae in the *dc* stripe are incomplete in front and behind and interrupted at suture and the ones along *ia* are only vestigial. *acr* sparse and fine, in two irregular rows, no *prsc*, 1 + 3 strong *dc*, two *ia*, the anterior one very small and level with *sa*, scutellum almost bare and with only the lateral pair of setae, which are very long and strong. Two very fine propleurals, lower prostigmatal absent, upper one fine and not very long, though almost twice as long as the upper propleural. *stpl* in an isosceles triangle, the upper side slightly longer than the others, a few rather long hairs within the triangle, the anterior *stpl* weak, the two others very long and strong, especially the posterior one.

Abdomen slender and parallel in dorsal view, somewhat clavate at apex in lateral view, fuscous with narrow hind margins and the base and ventral surface of the first segment testaceous, translucent, hypopygium and fifth segment ferruginous; setulose hairs rather long, but setae well developed only at sides of first segment and as a sublateral pair on fourth segment.

Legs, including coxae, yellow, apical quarter to fifth of hind femora and all the tarsi piceous (mid-tarsi missing). Legs very long and slender, especially hind femora and front tarsi; front femora with four very long *pv* setae which alternate with shorter ones, front tibiae with a long *pv* seta, mid-femora with two long *av*, four long *pv* and two (*p* and *pd*) preapical setae, mid-tibiae with a very long and strong *ad* at two thirds and a somewhat smaller *pd* beyond middle, hind femora with four moderate *av*, three very long *pv* and one *pd* preapical setae, hind tibiae with a long and strong *pd* beyond middle, a still stronger *ad* slightly basad of middle, and a considerably shorter but still very strong *a* seta just before middle.

Wings slightly infuscate, slender, veins brown, r_{4+5} and *m* hardly appreciably converging, almost parallel at apex, *r–m* in middle of discal cell. Calyptrae hyaline with the border yellowish, of normal size, the lower one widely projecting. Halteres whitish, rather large.

UGANDA: Kigezi District, Mt. Sabinio 9000–10,000 ft., 25.xi.1934 (*F.W.E.*) ♂ type.

Caricea vittata group

1(16). *pd* seta of hind tibiae basad of *ad* or level with it. Thorax with three broad[1] brown vittae, which are seldom faint, and which are separated by two more or less narrow grey vittae along *dc*. Abdomen largely grey dusted, usually with a median vitta and pairs of spots.

2(15). The *pd* seta of the hind tibiae basad of the *ad*. Both pairs of scutellar bristles long and strong, seldom the lateral pair much smaller, but then the median vitta of thorax extended over almost all the dorsal surface of scutellum.

3(14). Legs more or less yellow. Lower calyptra of at least moderate size, always distinctly projecting beyond upper one.

4(11). Ocellar bristles well developed, about two-thirds as long as frons. *a* bristle of hind tibiae present in male (*tarsalis*?, *fuscifemur*?) and female. Upper prostigmatal bristle not appreciably shorter than propleural bristle. Arista short-haired, the fringe of the dorsal side broader than the thickened base of the arista.

5(8). Palpi and front coxae black. The median thoracic vitta not reaching scutellum. Jowls less than twice as wide as the third antennal joint.

6(7). Legs long and thin, with the setae long and strong in female; some of them long and thin, the others long and strong in male; tibiae one and a half times as long as the head wide. Abdomen long and slender. Anterior *ia* hardly one-half as long as the anterior *sa*, not longer than the posterior *ia*. Frons about three-quarters as wide as one eye. *a* and *ad* of hind tibiae rather far beyond *pd*. . . . . . *gracilipes* sp. n., p. 165

7(6). Legs short, front tibiae as long as the head wide, hind tibiae slightly longer, tibiae entirely yellow, tarsi piceous, front femora blackish, or with a blackish streak on *pd* surface. Abdomen short and stout. Anterior *ia* unusually strong,[2] stronger than the posterior *ia* and more than half as long as the anterior *sa*. Frons rather broad, one-sixth narrower than one eye, slightly narrowed to vertex, with six inclinate frontal setae, the first and last of which are long, and the second and fourth of which are moderately long. *a* seta of hind tibiae slightly beyond *ad*, *ad* not much beyond *pd*. Jowls one and a half times as wide as the third antennal joint. Vittae of thorax faint. Abdomen with a very narrow median vitta and a pair of small indistinct spots on the second and third segments. ♀. . . . . [*tarsalis* Walk.]

8(5). Palpi and front coxae yellow. The median thoracic vitta extending over disc of scutellum. Jowls twice as wide as third antennal joint.

[1] Except in *tarsalis*, where three or five narrow vittae are present.

[2] But as in *gracilipes* in a second female, recently discovered. In it the front femora have only a blackish streak, and only three inclinate frontal setae and three very small hairs are developed.

9(10). Frons parallel, three-quarters as wide as one eye. Femora and tarsi strongly infuscate, apical half of front tibiae slightly infuscate. Dark spots of abdomen rather large. The insertions of the three setae of the hind tibiae can be connected in projection by a straight line. ♀. [*fuscifemur* Mall.]

10(9). Frons conspicuously narrowed to vertex, slightly wider in front than one eye. Legs entirely yellow, except for the apical half or two-thirds of the last tarsal joint, which is blackish, whereas the basal part is pale yellow. Dark spots and median vitta of abdomen of moderate size. *pd* of hind tibiae much basad of a straight line running through the *a* and *ad* setae. ♂. . . . . *distitarsalis* sp. n., p. 167

11(4). Ocellar bristles small, scarcely a third as long as frons. *a* bristle of hind tibiae absent in male. Upper prostigmatal seta weak, about one-half or two-thirds as long as the propleural seta. Frons distinctly narrowed to vertex, interfrontalia strongly narrowed to the reclinate seta. Arista almost bare, the short dorsal pubescence hardly as broad as the thickened base. Lower calyptra rather short though well projecting beyond the upper one. . . . . . . [*vittata* Wied. 12]

12(13). Legs entirely yellow, the apex of the posterior femora often narrowly infuscate. Palpi yellow to brown. Pattern of thorax and abdomen light brown. Face (♂) dull golden dusted . . . [*vittata vittata* Wied.]

13(12). Legs with the tarsi piceous, the tibiae and apex of femora strongly infuscate to piceous. Palpi piceous. Pattern of thorax and abdomen dark brown. Face (♂) velvety black. . . . [*vittata chyuluana* n. ssp.], p. 169

14(3). Legs entirely piceous-black. Lower calyptra extremely short, shorter than the upper one and not projecting beyond it. Ocellar bristles very small, not a third as long as frons. Lateral bristles of scutellum conspicuously shorter than apical ones. *a* seta of hind tibiae present in both sexes. Upper prostigmatal as long as propleural. Median vitta of thorax complete to more or less apex of scutellum. [*somereni* sp. n.], p. 169

15(2). The *pd* seta of the hind tibiae level with *ad*, tibiae piceous to black, except at base. The lateral scutellar bristles much shorter than the apical ones. The median thoracic vitta not reaching scutellum. Palpi and front coxae black. Upper prostigmatal bristle long. Lower calyptra twice as much projecting as the upper one. Front femora black, posterior femora orange and black. . . . *edwardsi* sp. n., p. 171

16(1). *pd* seta of hind tibiae rather far beyond the *ad*. Thorax with five brown vittae. Abdomen almost entirely dark brown dusted,[1] rather shining, front and hind margins greyish dusted. Lower calyptra projecting by twice the length of the upper one. Legs very long and slender, all the femora largely yellow. . . . . *ruwenzorica* sp. n., p. 173

Caricea gracilipes sp. n. ♂ ♀

Length 5·8–6·5 mm.; *of wings* 6.1–7 mm.

♂. *Head* black, densely grey dusted, except on interfrontalia, which are

[1] Ground-colour of body reddish-yellow, except on head, mesonotum and scutellum which are dark; abdomen with brown transverse bands which reach posterior and—except on first segment—anterior margins in middle. Basal segments of antennae brownish-yellow, arista very short-plumose: see (*Neodexiopsis*) *colorata* Curr. (1938, Amer. Mus. Novit. 974: 1), which according to information obtained from Dr. Curran traces to *Caricea ruwenzorica* in the above key but differs in colour of abdomen etc.

black with brown reflections, and face which is silver-white. Frons practically parallel, much longer than wide, almost inappreciably narrowed to base of antennae and to vertex, two thirds as wide in front as one eye, fronto-facial stripe hardly narrowed to apex of second antennal joint, gradually widened to lower margin of eyes, where it is one half to two thirds wider than at vertex, parafrontalia a third to a quarter as wide as interfrontalia in front, less than a third as wide as interfrontalia in middle, with 3–5 pairs (of which 2–3 are strong) of inclinate frontals. Inner vertical strong, outer vertical and post-verticals fine though rather long, ocellars very long and fine. Antennae black, apex of second joint silver-dusted interiorly, third joint not quite thrice as long as wide, apex far apart from mouth-margin, but reaching lower fifth of eyes, the latter reaching level of mouth-margin; arista bare in apical half, short-plumose in basal half (except where it is thickened), the longest hairs less than half as long as the width of the third antennal joint. Palpi black. Parafacialia less than half as wide, jowls as wide as third antennal joint.

Thorax black, grey dusted, with three dark brown dorsal vittae, a rather broad median vitta which reaches neck, tapers in front, almost reaches the *prst dc* laterally, and ends just in front of scutellum, and a pair of sublateral vittae along the *ia* which are gradually and slightly curved inward in front and behind. *acr* fine, in two rows, a few additional hairs behind, 1 + 3 strong *dc*, two rather strong *ia*, the anterior one just before level of the *sa*; scutellum sparsely setulose, with the normal two pairs of strong setae. Two propleurals and prostigmatals, the latter surrounded by some fine hairs. *stpl* in a triangle, the posterior side of which is much shorter, and which bears rather numerous, long, fine, erect hairs, anterior *stpl* weak, the two others very strong, especially the upper one.

Abdomen long and slender, somewhat depressed on dorsum but compressed at apex, black, densely grey dusted, with a narrow, brown median vitta and sometimes a pair of small brown spots on the third or second and third segments. In the specimen from Mt. Karangora the brown spots are large and incompletely fused with the median vitta, and a pair of small spots is also present on the first and fourth segments; second segment with a pair of lateral setae, third and fourth segments with two pairs of setae in a transverse discal row, fifth with 1–2 pairs of setae and some long, erect hairs.

Legs very long and slender, coxae black, grey dusted, trochanters ferruginous, at least at apex, front femora black, except for a narrow yellowish apex, mid-femora with the basal half, hind femora with the basal two-thirds ferruginous, the apex black, tibiae ferruginous, infuscate in middle, tarsi piceous. All the femora with numerous, fine, long, erect hairs, tibiae with dense and long hair on more than apical half of interior and posterior surfaces, the submedian *pv* of the front tibiae very fine and long, the *pd* of mid-tibiae slightly beyond middle, very fine and long, the *ad* almost on second third, moderately

long, hind tibiae with the *pd* somewhat before, the *a* and *ad* somewhat beyond middle, the *pd* and *a* very fine, the *ad* very strong and long.

Wings somewhat smoky, veins brown, testaceous at base, r_{4+5} and *m* slightly converging towards apex, but slightly sinuate, so that they diverge slightly at extreme apex, *r–m* slightly beyond middle of discal cell. Calyptrae whitish-hyaline with yellowish-white border, the lower one strongly projecting, largely subparallel with strongly rounded apex. Halteres pale yellow.

♀ similar to male, abdomen fusiform, pointed at apex. Femora and tibiae with the normal short appressed hairs, the setae stronger and much more conspicuous.

UGANDA: Kigezi District, Mt. Mgahinga, xi.1934 (*F.W.E.*) 10,000–11,000 ft. ♂ type; 8000 ft. 1 ♂ 2 ♀ paratypes; Mt. Sabinio, xi.1934, 8000 ft. (*F.W.E*). 1 ♀ paratype. Ruwenzori, Mt. Karangora, 9900 ft. (*F.W.E.*) 1 ♂ paratype.

In none of the other specimens are the hairs on the apical half of the tibiae as long as in the type, where the length of many of them reaches or even exceeds twice the tibial diameter. In the females the *a* and *ad* of the hind tibiae are inserted in middle, in the male from Mt. Karangora the *pd* is inserted practically in middle.

Caricea distitarsalis sp. n. ♂ ♀

Length 4·7–5 mm.; *of wings* 5–5·5 mm.

♂. *Head* black, densely grey dusted, the interfrontalia dull black with strong brownish and pale grey reflections, parafrontalia, parafacialia and face golden-grey dusted. Frons conspicuously narrowed to vertex, slightly wider in front than one eye; fronto-facial stripe very slightly narrowed to base of arista, gradually widened to lower margin of eyes, where it is distinctly wider than frons at base of antennae; parafrontalia a third as wide as interfrontalia before middle, with four (the second and fourth stronger) inclinate frontals. Inner vertical strong, outer one weak, postverticals moderate, ocellars long. Antennae fuscous, the second joint translucent-reddish at apex, with conspicuous golden-grey dust on dorso-interior surface, third joint more than thrice as long as wide, apex slightly pointed dorsally, not reaching level of lower margin of eyes, and separated from mouth-margin by two thirds of the length of the third antennal joint; arista short-plumose, the hairs being longest on dorsal surface of basal third, where they are a third as long as the width of the third antennal joint, becoming gradually shorter and disappearing near apex. Palpi yellow. Parafacialia almost half, jowls almost twice as wide as third antennal joint.

Thorax black, densely grey dusted, dorsum with three broad, pale brown vittae, the median one between the *dc*, along the outer base of which a narrow vitta remains whitish-grey, narrowing to neck and on scutellum and reaching

the apex of the latter, the sublateral ones reaching the *ia* and *prst. acr* fine and sparse, almost in one irregular row which ends in a pair of setulae in front of scutellum, 1 + 3 strong *dc*, the first *post* pair somewhat weaker, one *ia*; scutellum sparsely setose, with two pairs of strong setae. Two rather strong propleurals, two prostigmatals, the upper one slightly stronger than the smaller propleural, the lower one very small, no small hairs in the vicinity. *stpl* in a triangle, the anterior side of which is shorter, the triangle almost devoid of small hairs, lower and anterior *stpl* subequal, rather strong, posterior *stpl* very strong.

Abdomen moderately slender, somewhat depressed on dorsum, somewhat compressed at apex of venter, black, densely grey dusted, with a brown median vitta on second and third segments, a pair of conspicuous round spots on the same segments, and a pair of faint brown spots on the first and fourth segments; the second segment with three pairs of moderate setae, the third with three pairs of strong setae, the fourth with two pairs of strong setae in a transverse discal row, fifth with a pair on hind margin. Fourth ventrite largely pale, the margins of its excision densely beset with rather long, erect hairs.

Legs entirely testaceous, except for part of the last joint of each tarsus, viz. half on front tarsi, two-thirds on mid-tarsi, and four-fifths on hind tarsi, which are piceous, claws dark, empodia pale. Front femora with 6–7 rather strong *pv*, 5–6 not very strong *pd* setae, front tibiae with a rather strong but not long *pv*, mid-femora with two strong *pv* near base and two preapicals (*p* and *pd*), mid-tibiae with one *ad* and one *pd*, both not very long but quite strong, the former somewhat longer and on three fifths, the other slightly beyond middle, hind trochanters (as the apex of the mid and hind coxae) with numerous, erect, fine hairs, hind femora with four moderate *av*, the second of them much stronger, inserted on basal fourth, one strong *pv* slightly beyond the strong *av*, about six rather strong *ad* and a *pd* preapical, hind tibiae with a strong *pd* somewhat basad of middle and a strong *a* and *ad* (the latter a trifle more basad) somewhat beyond middle.

Wings hyaline, the veins testaceous near base, brown on disc, r_{4+5} and *m* very slightly diverging at apex, *r–m* almost on three-fifths of discal cell. Calyptrae whitish-hyaline, the border pale yellow, the lower one much longer than the upper one, strongly projecting, largely subparallel with the apex semicircularly rounded. Halteres pale yellow.

♀ similar to male, but parafrontalia slightly narrower, third antennal joint thrice as long as wide, longest hairs of arista hardly longer than basal diameter of arista, only a quarter as long as the third antennal joint is wide, the pleurae, including humeri, largely ferruginous (normal?), abdomen oblong oval, rather strongly depressed on dorsum, first segment with a narrow median vitta and a pair of rather large spots; femora narrowly infuscated on dorsal surface of apical half, last joint of tarsi piceous, third and fourth more or less infuscate,

front femora with 7–10 *pd* setae, hind trochanters with shorter and sparser hairs, r_{4+5} and *m* not distinctly diverging at extreme apex, *r–m* distinctly beyond three fifths of discal cell, lower calyptra more subtriangular, as the basal half is broader and not subparallel.

KENYA: N. of Nakuru, ca. 9300 ft., 6.iii.1935, on *Lobelia aberdarica* (*F.W.E.*) ♂ type. UGANDA: Mt. Elgon, 11,000 ft., 10.iii.1934 (*H. B. Johnston*) ♀ paratype, greasy and in rather poor condition.

Very closely related to *C. fuscifemur* Mall. Most of the characters of *distitarsalis* might be regarded as subspecific. The difference in the frons and in the position of the hind tibial setae, however, would hardly warrant for the time being uniting the two forms in one species. The *ad* setae of the mid and hind femora are less numerous and less conspicuous than in *fuscifemur*. The male of *distitarsalis* is mature, whereas the female type of *fuscifemur* is slightly teneral. The elimination of this influence would tend to increase the difference in colour between the two species.

[**Caricea vittata chyuluana** ssp. n. ♂]

Length 3·7 mm.; *of wings* 3·4 mm.

The structural characters are the same as in *vittata* Wied., which occurs in Natal, but the coloration is strikingly darker: the face is velvety-black, palpi piceous-black. The three broad vittae of the thorax, the narrow median vitta and the paired spots of the abdomen are of the same shape as in *vittata*, but dark brown. Front femora with the *p* and *pd* surfaces piceous on apical two-fifths, front tibiae and tarsi strongly infuscate, mid and hind femora piceous on apical third to quarter, mid and hind tibiae and tarsi very strongly infuscate, largely piceous, the base of the tibiae and apex of the tarsi slightly paler. There is a dark spot on each side of the dorsal half of occiput and another one on and around the anterior prothoracic spiracle, which does not affect the propleural depression. The wing-veins are brown.

KENYA: Chyulu Hills, 6000 ft., vi.1938 (*Coryndon Museum Expedition*) ♂ type.

[**Caricea somereni** sp. n. ♂ ♀]

Length 3·3–3·9 mm.; *of wings* 3·1–3·4 mm.

♂. *Head* black, densely grey dusted, a broad stripe from inner verticals to neck, a small spot at the base of the reclinate and a larger one, surrounding the bases of the 2–3 inclinate frontal setae, dark brown dusted, interfrontalia velvety black. Frons slightly longer than wide in front, distinctly narrowed to vertex, interfrontalia strongly narrowed to middle, two-thirds as wide behind as in front, fronto-facial stripe hardly narrowed to middle of face,

slightly widened from there to lower margin of eyes, where it is not or only slightly wider than on frons; parafrontalia a fifth as wide in front, a third as wide behind as interfrontalia, distinctly protruding anteriorly in profile, the face conspicuously receding. Inner vertical rather strong but of moderate length, outer vertical indistinct, postverticals and ocellars small, the latter slightly more than a quarter of the length of the frons. Antennae dull black with greyish reflections, especially on interior surface of second and in apical part of third joint, the latter thrice as long as wide, approaching though not quite reaching mouth-margin, which is practically level with the lower margin of eyes, arista almost bare on ventral surface, longest hairs of dorsal surface not quite as long as the basal diameter of arista. Parafacialia almost linear (except near base of antennae), jowls almost as wide as third antennal joint.

Thorax black, densely grey dusted, with three broad, dark brown dusted vittae, the median one slightly widened from neck to second *post dc*, reaching first and second *post dc* at sides and occupying all the scutellum, except for a small spot of grey dust between the apical setae, the lateral vittae curved from level of humeral seta and the very small *ph* to base of wing, usually fused with the median vitta at the *prst dc* and the first *post dc*; pleurae with a dark brown spot on and around anterior spiracle (but not extending on to propleural depression). *acr* sparse and small, the two rows very close together, almost appearing like one row in places, 1 + 3 strong *dc*, one small *ia*; scutellum with a few setulose hairs and two pairs of strong setae, the lateral pair distinctly shorter. Two propleurals and prostigmatals, lower prostigmatal small, curved downward, not surrounded by small hairs. *stpl* in a triangle, which is bare, and the anterior side of which is hardly more than half as long as the others, lower and anterior *stpl* subequal, not very long though quite strong, posterior one long and strong.

Abdomen elongate-oval, strongly convex, very slightly depressed at base, somewhat compressed at apex, black, densely grey dusted, with a very conspicuous, dark brown dusted median vitta from middle of first to apex of fourth segment and a pair of rather large, subquadrate spots which broadly reach hind margin and are sometimes narrowly connected along hind margin with the median vitta, spots of the fourth segment sometimes fused with median vitta, in dorsal view the spots reach almost the sides, so that apparently only a rectangularly bent stripe along median vitta and front margin remains of the grey dust. Sublateral setae well developed, third segment with a transverse discal row of two pairs of setae, fourth with a pair of strong paramedian discal setae and a weaker pair outward and apicad of it, fifth with a pair of long, fine setae rather far apart and two pairs of smaller setae between them. Lobes of the fourth ventrite with numerous erect hairs on inner margin, which are not very long but rather strong.

Legs wholly piceous black, coxae densely grey dusted, femora shining. Front

femora with the *pd* and *pv* setae small and fine, four somewhat stronger *pd* in apical half, front tibiae with a rather strong but not very long *pv* seta slightly beyond middle; mid-femora with 4–5 small *ad* from base to shortly beyond middle, the last few of them rather strong (though not long), 3–4 fine and rather small *pv* in somewhat more than basal half, and two preapicals (*p* and *pd*), mid-tibiae with a strong *ad* almost at two-thirds and a much finer *pd* not much beyond the middle; hind femora with five rather strong though not very long *ad*, a strong *pd* preapical, 4–5 fine and small *av*, and about five small and fine *pv*, among which a longer one is inserted just beyond basal third, hind tibiae with a strong *pd* on middle, a strong *ad* not much beyond the *pd* (approximately by the tibial diameter) and a rather small *a* at the same level.

Wings very slightly smoky, veins brown, r_{4+5} and *m* slightly converging to apex, *r–m* slightly beyond middle of discal cell. Calyptrae whitish, with whitish border and fringe, extremely short, the lower one still shorter than the upper one, entirely covered by it. Halteres pale yellow.

♀ similar to male, abdomen more depressed, pointed at apex, second to fourth segments with a narrow dark brown anterior border in addition to the pattern of the male.

KENYA: Chyulu Hills, 6000 ft., vi. and vii.1938 ♂ type (in B.M.), 2 ♂ 2 ♀ paratypes (in B.M. and Coryndon Memorial Museum, Nairobi).

Caricea edwardsi sp. n. ♂ ♀

Length 4·6–5·9 mm.; *of wings* 4·3–6·2 mm.

♂. *Head* black, densely grey dusted, median dorsal part of occiput and posterior part of parafrontalia dark brown dusted, interfrontalia dull black with strong brown reflections when seen from in front. Frons slightly longer than face, not quite twice as long as wide at vertex, distinctly dilated from vertex to lunula, slightly wider in front than one eye, fronto-facial stripe subparallel from there to apex of second antennal joint, gradually dilated and rounded to lower margin of eyes, where it is a third wider than at lunula; parafrontalia almost a quarter as wide in front, almost a third as wide behind middle as interfrontalia, with two strong and 1–3 (one of them sometimes rather long) small inclinate frontal setae. Inner vertical strong, outer vertical and postverticals moderate, ocellars strong, two-thirds as long as frons. Antennae black, second joint pale dusted interiorly at apex, third joint slightly more than twice as long as wide, reaching lower sixth of eyes (the latter not quite reaching level of mouth-margin), falling short of mouth-margin by two-thirds of the length of the third antennal joint; arista almost bare on apical half, except for a few short hairs on dorsal surface, short-plumose in basal half, two-

thirds or three-quarters as wide, including plumosity, as third antennal joint. Parafacialia approximately a third as wide as, jowls slightly wider than third antennal joint.

Thorax black, densely grey dusted, dorsum with three broad, brown vittae, the median one slightly dilated from neck to scutellum, sublateral ones forming a long, inwardly and backwardly curved hook in front, passing through the *prst* and *ph* pores to almost neck and then curved backwards and reaching the *prst dc* and suture where they are fused with the median vitta. *acr* very sparse and inconspicuous, two rows hardly recognisable; 1 + 3 strong *dc*, *ia* lacking, scutellum with a few setulose hairs and rather weak lateral and rather strong apical pairs of setae. Propleural setae strong, prostigmatals rather weak, the lower one curved downward, very fine though rather long. *stpl* in an almost equilateral triangle, the posterior side of which is hardly shorter, and which bears rather numerous, long, erect hairs, anterior *stpl* rather weak, the two others very long and strong, the lower one slightly shorter.

Abdomen rather elongate, slightly narrowed to apex, somewhat depressed at base, strongly compressed at apex, black, densely grey dusted, first to third segments with a broad, dark brown band along the hind margin, which reaches front margin in middle on second and third segments, fourth segment with a broad median vitta which is more or less extended sideward in middle, the transverse bands often tending to disintegrate into a median vitta and a pair of spots. First abdominal segment with the usual vertical fan of setae at sides, second to fourth segments each with a strong lateral and a moderate sublateral discal seta, the sublateral seta of the fourth segment strong, this segment also with 2–3 pairs of finer marginal setae. Hypopygium with fine and rather short hairs, superior forceps fused, elongate trapezoidal, emarginate at apex, basal half covered with microscopic pile, apical half bare and glossy, rufescent; fourth ventrite with rather numerous and long hairs.

Legs with black, densely grey-dusted coxae, front femora black with a narrow ferruginous apex, sometimes the basal half reddish anteriorly, mid and hind femora ferruginous with the apical third to sixth black, tibiae and tarsi piceous, the former with ferruginous basal third or quarter. Front femora with 5–6 *pd*, three rather long sub-basal *a* setae, and five *pv* which alternate with hairs, front tibiae with a rather fine *pv* seta beyond middle; mid-femora with 6–7 *av* setae from base to second third, 3–4 strong *a* and four long *pv* setae from base to two-thirds, a *pv* at two-fifths particularly strong, two strong (*p* and *pd*) preapical setae, mid-tibiae with a moderate *pd* in or beyond middle, and a similar *ad* slightly beyond it, hind femora with 6–7 rather strong *ad*, about nine, mostly fine *av* among which two strong ones at a third and two thirds, *pv* setae fine and not very distinct, except for a strong one at two-fifths and a smaller one at three-fifths, one strong *pd* preapical, hind tibiae with a strong *ad* in middle, a smaller *a* and *pd* level with it, seldom one of them slightly

more basad or apicad (in one specimen the *pd* is inserted distinctly basad of the *ad*).

Wings slightly smoky, with brown veins which are slightly paler at base, r_{4+5} and *m* rather strongly curved to apex, slightly diverging at extreme apex, *r–m* distinctly beyond middle of discal cell. Calyptrae hyaline-yellowish with pale yellow margins, lower one strongly projecting, subparallel, strongly rounded at apex. Halteres yellow.

♀ similar to male, the abdomen pointed with the pattern less conspicuous.

UGANDA: Kigezi District, Mt. Mgahinga, 10,000–11,000 ft., 22.xi.1934 (*F.W.E.*) ♂ type, 4 ♂ 9 ♀ paratypes; Mt. Sabinio, 8000 ft., xi.1934 (*F.W.E.*) 1 ♂ 1 ♀ paratypes; Kanaba, 7800 ft., xi.1934 (*F.W.E.*) 2 ♂ 2 ♀ paratypes.

In the specimens from Mt. Sabinio and Kanaba the vittae of the thorax are not connected in front, the recurved hook being absent, and the setae, especially the ocellars and outer verticals, are somewhat shorter.

Caricea ruwenzorica sp. n. ♂ ♀

Length 4·8–5·7 mm.; *of wings* 5·3–6·3 mm.

♂. *Head* black, densely grey dusted, with a dark stripe from vertex to occipital foramen, interfrontalia black with strong, brown reflections in anterior view, frontal triangle and parafrontalia brown dusted. Frons not protruding in profile, more than twice as long as wide, approximately half as wide as one eye, parallel from vertex to last inclinate frontals, fronto-facial stripe slightly narrowed from there to base of arista, rather strongly dilated and rounded to lower margin of eyes, where it is one and a half times as wide as frons; parafrontalia a third to a quarter as wide as the interfrontalia, with two strong and 1–3 small inclinate frontal setae. Inner vertical very strong, outer vertical very distinct though not long, postverticals slightly longer than outer verticals, ocellars much smaller. Antennae fuscous, second joint with golden-brown dust interiorly at apex, third joint greyish dusted on apical half, almost thrice as long as wide, falling short of mouth-margin (which is slightly passed by the eyes) by the length of the third antennal joint, arista almost bare, sparsely short-haired in basal half, the longest hairs not twice as long as the basal diameter of the arista. Parafacialia linear, jowls a third as wide as third antennal segment.

Thorax black, densely grey dusted, dorsum brown dusted, with five not very well defined darker brown vittae, the median one reaching neck and continued over disc of scutellum, the subdorsal and sublateral ones connected in front at *ph. acr* very small, fine and sparse, mainly in one irregular row, a few more setulae present in front of scutellum, 1 + 3 long *dc*, two moderate *ia*, scutellum with some fine setulae and two pairs of very strong setae. One fine propleural, the upper prostigmatal stronger though rather fine, the lower one fine and

curved downward, not surrounded by small hairs. *stpl* in an almost equilateral triangle, which bears some fine, erect hairs, anterior *stpl* weak, lower one strong, posterior one very strong.

Abdomen elongate-oval, much longer than the thorax, slightly depressed, apex compressed, dorsum almost entirely dark brown dusted, with a very narrow brownish-grey dusted hind margin on first to fourth segments, basal half of first segment thinly grey dusted. Lateral setae of abdomen well developed, fifth segment with a pair of fine, long setae among the hairs. Fourth ventrite with rather dense, fine and short hairs along inner margin of the lobes.

Legs very long and slender, yellow, with the apical third to quarter of the femora and a long dorsal streak on the anterior femora piceous, posterior tibiae strongly infuscate to piceous, front tibiae slightly infuscate, base of tibiae paler, tarsi piceous, first joint of hind tarsi rather strongly compressed. Front femora with five not very long but quite strong *pd* setae, a row of fine but distinct *p* setae, two of them close to base rather long, 5–6 *pv*, alternating with fine setae, three of them from near base to third fifth very long, front tibiae with a very long and strong *pv* slightly beyond middle: mid-femora with about six fine and short *av* in basal half, 4–5 *a* setae, a strong one at middle and another one somewhat beyond middle, three very long *pv* from a quarter to three quarters, and two (*p* and *pd*) strong preapicals, mid-tibiae with a strong *pd* in middle and a strong and very long *ad* at three-fifths or two-thirds; hind femora with 2–4 rather fine *ad* in basal two-fifths, no *ad* from there to second third, and two strong *ad* in apical third, an *av* row of six setae which are fine and short at base and increase gradually in size, three very long *pv* at a third, a half and two-thirds, and a strong *pd* preapical, hind tibiae with a very long and strong *ad* at two-fifths, a slightly weaker *a* practically level with it (very slightly more apicad) and a strong *pd* just beyond middle.

Wings rather smoky, veins brown, somewhat paler at base, r_{4+5} and *m* very slightly curved to apex, almost parallel, just noticeably diverging; *r–m* slightly beyond middle of discal cell. Calyptrae somewhat smoky, margin brownish, lower one very long and parallel, rather narrowly rounded at apex, projecting beyond upper one by more than twice the length of the latter. Halteres pale yellow.

♀ only distinct from male by the stouter, more depressed, more oval, and pointed abdomen.

UGANDA: Ruwenzori, Namwamba Valley, 6500 ft. (*F.W.E.*) ♂ type, 2 ♂ 3 ♀ paratypes; Mobuku Valley 7300 ft. (*F.W.E.*) 3 ♂ paratypes; Bwamba Pass (west side), 5500–7500 ft. (*F.W.E.*) 4 ♂ paratypes; Fort Portal, 4.xii.1934 (*F.W.E.*) 1 ♂ paratype.

In a paler form from Namwamba Valley (1 ♂) and Mobuku Valley (2 ♂, 1 ♀) the abdominal segments have broader grey transverse bands along the lateral parts of the front and hind margins, the thoracic vittae are slightly narrower

and therefore more detached from each other, the calyptrae are hyaline with whitish border. In the Namwamba male, which is slightly teneral, the hind tibiae are, moreover, hardly infuscate at all. In pattern this pale form would seem to resemble *colorata* Curr., but the body is black, whereas it is reddish yellow in *colorata*. This coloration cannot be due to immaturity, as Curran's series consisted of seven specimens collected in the field.

Caricea bipila sp. n. ♂ ♀

Length 5·5–5·8 mm.; *of wings* 5·8–6·1 mm.

♂. *Head* black, grey-pollinose, except on interfrontalia which are dull black with brown reflections, parafrontalia and parafacialia which are yellowish-grey dusted. Frons almost as wide as one eye, slightly narrowed to vertex, fronto-facial stripe almost parallel on median third, rather strongly widened to ventral end of eyes; parafrontalia not quite half as wide in middle as interfrontalia, with two strong, and, between them, one or two small to moderate inclinate frontal setae. Inner vertical strong, outer vertical weak, postverticals and ocellars long, more than two thirds as long as frons. Antennae fuscous, the second joint silver-grey dusted at apex on inner dorsal surface, third joint almost thrice as long as wide, its apex rather far from level of lower eye-margins, the latter slightly above epistoma, arista short-haired on basal half, the hairs very sparse on ventral surface, the longest hairs hardly a third as long as the third antennal joint wide. Parafacialia a third as wide below middle as the third antennal joint, jowls as wide as third antennal joint.

Thorax black, grey-dusted, the dorsum yellowish-grey dusted with five vittae, the median one narrow, reaching almost from neck to almost base of scutellum, subdorsal vitta narrow, reaching from *prst* to third *post dc* and more or less distinctly continued at or to scutellars, lateral vitta broader and shorter, interrupted at suture. *acr* fine though distinct, in two rows, no distinct *prsc*, 1 + 3 strong *dc*, two *ia*, the anterior one slightly before level of *sa*, scutellum with a few small setulae and a lateral pair of very long and strong setae. Two rather fine propleurals, the lower one much weaker, two prostigmatals, similar to the propleurals, surrounded by a few fine though rather long hairs. *stpl* in a triangle which bears some fine and long, erect hairs, and the posterior side of which is considerably shorter, anterior *stpl* weak, the two upper *stpl* very long and strong.

Abdomen black, parallel and slender in dorsal view, somewhat club-shaped in lateral view, grey dusted, with a faint and narrow brown median vitta and a pair of rounded spots on segments 1–4, which are small on 1 and 4, lateral seta distinct though decreasing in length from first to third segment, much stronger on fourth segment, where, in addition, a small subdorsal seta is present, fifth segment with a pair of rather strong, decussate setae.

Legs testaceous-yellow, tarsi, apical quarter of posterior femora and a shadow on dorsal surface of apical quarter of front femora piceous; very slender and long, especially the front tarsi. Posterior surface of front femora and ventral surfaces of posterior femora with rather numerous erect, fine, long, soft hairs. Front tibiae with a fine *pv* seta, mid-femora with two preapicals (*p* and *pd*), four rather long *a* setae and three long *pv*, mid-tibiae with a weak *ad* and a moderately strong *pd* seta, hind femora with six long *ad*, three very long *pv* and a *pd* preapical, hind tibiae without a *pd* seta but with about six half-erect setulose hairs around middle of *pd* surface, *a* very slightly basad of *ad*, both fine.

Wings hyaline, slightly infuscate, veins brown, r_{4+5} and *m* parallel at apex, *r–m* slightly beyond middle of discal cell. Calyptrae hyaline, border yellow, small, the lower one, however, rather strongly projecting, subtriangular, narrowly rounded at apex. Halteres pale yellow.

♀ similar to male, the eyes slightly larger and the frons, therefore, slightly narrower than one eye, ocellars hardly more than half as long as frons. Abdomen elongate-fusiform, the paired spots larger on first to third segments, indistinct on fourth. The legs without erect soft hairs, but with the usual appressed hairs and with the setae much stronger and more conspicuous. Tarsi not so long nor so slender.

UGANDA: Kigezi District, Mt. Mgahinga 10,000–11,000 ft., xi.1934 (*F.W.E.*) ♂ type, 2 ♀ paratypes.

Caricea humilis group

1(10) Frons very slightly projecting beyond eyes in profile, considerably narrower above antennae than one eye. Eyes reaching level of mouth-margin, antennae of moderate length, apex conspicuously above level of lower margin of eyes.

2(5). Frons less than half as wide above antennae as one eye. Pulvilli and claws rather long. Arista rather long-plumose near base.

3(4). Tarsi pale yellow, except for the last joint, which is infuscate. 3·75–5 mm. The longest hairs of arista slightly more than half as long as the third antennal joint. Frons at its narrowest point hardly more than a third the width of one eye, narrowed from base of antennae to the second inclinate frontal seta . . . . . . [*ochroprocta* Speis.]

4(3). Tarsi entirely infuscate. 5·5–6·5 mm. Arista with very long hairs near base, bare at apex . . . . [**angustifrons* Stein]

5(2). Frons at least half as wide at narrowest point as one eye (Fig. 74). Pulvilli and claws short. 3–4 mm.

6(7). Arista long-plumose in basal half, the longest hairs fully as long as the third antennal joint from arista to apex. Tibiae largely infuscate. r_{4+5} rather strongly curved downward, the extreme apex, however, slightly upturned, so that r_{4+5} and *m* are slightly diverging at tip. [*setalis* sp. n.], p. 177

7(6). Arista pubescent or short-plumose, the longest hairs not longer than the third antennal joint wide. Tibiae seldom conspicuously infuscate.

8(9). Arista short-plumose, about as wide, including plumosity, as the third antennal joint. Frons slightly more than one-half as wide above base of antennae as one eye (Fig. 74). r_{4+5} very gently curved, reaching costa some distance in front of the wing-tip, very slightly diverging with *m* at apex . . . . *humilis multimaculata* Ad., p. 179

9(8). Arista pubescent in basal half, the hairs about as long as the base of arista wide. Frons two-thirds as wide above the base of the antennae as one eye. r_{4+5} rather strongly curved, reaching costa almost in wing-tip, slightly converging with *m* at apex . . [*curvinervis* sp. n.], p. 179

10(1). Frons projecting beyond eyes by more than width of the third antennal joint, about three-quarters as wide as one eye, or wider. Eyes not reaching level of mouth-margin, third antennal joint long, reaching ventral margin of eyes.[1] Head almost as long as high, eyes less high than in the species under 1. Abdomen with a brown median vitta and paired spots. 3–4·5 mm.

11(12). Frons almost as wide as one eye, slightly dilated to vertex, with 3–4 inclinate setae. Hind tibiae without long erect hairs in either sex, though with the normal setae and an additional preapical (antero-subdorsal between *d* and *ad* on front tibiae). Parafacialia rather wide, not much narrower than third antennal joint. 3–4 mm. . . . . [*inanis* Stein]

12(11). Frons three-quarters as wide as one eye, parallel to vertex, with 4–5 inclinate setae. Hind tibiae of male with some long, erect, bristly hairs on ventral surface. Parafacialia very narrow. Mid-tibiae almost entirely yellow, the others yellow at base.[2] 4·5 mm. Madagascar. [**trichocnema* Stein]

[Caricea setalis sp. n. ♀]

Length 3·4 mm.; *of wings* 2·8 mm.

Head black, densely grey dusted, interfrontalia black, with whitish reflections when seen from in front, parafrontalia, face and jowls silver-grey dusted. Frons not quite three-fifths as wide anteriorly as one eye, very slightly dilated to vertex, almost twice as long as wide in front, fronto-facial stripe gradually dilated with straight sides from base of antennae to lower margin of eyes, where it is more than one and a half times as wide as at vertex; parafrontalia a third as wide as interfrontalia, with three inclinate (the second of them smaller) frontal setae. Inner vertical strong, outer vertical absent, postverticals moderate, ocellars rather strong. Antennae fuscous, second joint silver-grey dusted interiorly at apex, the latter narrowly reddish translucent, third joint thrice as long as wide, somewhat acuminate dorsally at apex, reaching lower sixth of eyes but distant from mouth-margin by half the length of the segment, the eyes practically reaching level of mouth-margin; arista very long-haired

[1] *Coenosia costata* Stein from Durban apparently runs down to this group of species. It may be distinguished by its frons which is conspicuously broader than one eye, the jowls which are more than half as broad as the eyes high, the distinct though small costal spine, and the slightly infuscate cross-veins.

[2] This species should run down to the *humilis* group in the key on pp. 157–160, but it is repeated in the *semifumosa* group, as two pairs of tibiae are evidently coloured as in that group and the third is blackish at tip.

at base, the longest hairs at least as long as the third antennal joint from base of arista to apex, the hairs quickly decreasing in length and quite short at apex. Palpi pale brown. Parafacialia half as wide, jowls not quite as wide as third antennal joint.

Thorax black, densely grey-dusted, with a narrow median vitta between the *acr*, which is interrupted or subinterrupted behind suture, slightly dilated towards scutellum and occupies the base and disc of the latter, besides with a rudimentary vitta or rather a row of small spots at the bases of the *dc. acr* small but well developed, in two rows before suture, in four rows behind it, 1 + 3 long and strong *dc*, posterior *ia* small; scutellum setulose, with two pairs of strong setae, the lateral ones slightly shorter. Two rather strong propleurals and prostigmatals, the lower prostigmatal curved downward, surrounded by a few small hairs. *stpl* in an almost equilateral triangle, the posterior side slightly longer, the area with a few erect hairs, lower *stpl* somewhat shorter, posterior one much longer than the anterior one.

Abdomen black, rather thinly grey dusted, with a dark-brown dusted median vitta and a pair of rather large rounded spots on each segment; lateral setae rather strong, third and fourth segments each with a transverse discal row of two pairs of setae.

Legs with the coxae, trochanters and femora black, tibiae ferruginous, rather strongly infuscate, tarsi strongly infuscate. Front femora with three strong *d* setae towards apex, three rather long *pd* on basal two-fifths, four short ones from there to apex, and six rather long and fine *pv* setae, front tibiae with a strong and long *pv* in middle, apex with a strong additional *ad* preapical seta (five strong preapicals in all), mid-femora with the *av* setae fine and short, three strong *a* setae from two-fifths to apex, three rather long *pv* between base and three-fifths and two preapicals (*p* and *pd*), mid-tibiae with a moderate *pd* slightly beyond middle and a strong and long *ad* slightly beyond it; hind femora with six strong *ad*, two long *av* at one-third and two-thirds, three *pv*, two of which—before and behind middle—are rather long, and a *pd* preapical, hind tibiae with a very long *ad* slightly before middle and a long *a* very little beyond it.

Wings hyaline, veins pale brown with testaceous base, r_{4+5} rather strongly curved downward but slightly sinuate before apex, and the latter very slightly diverging with *m*, *r–m* distinctly beyond middle of discal cell. Calyptrae whitish with yellowish-white border and fringe, the lower one strongly projecting and broadly rounded at apex. Halteres pale yellow.

NATAL: Durban (*V. Muir*, Sharp Coll.) ♀ type; ZANZIBAR, i.-ii.1925 (*H. J. Snell*) ♀ paratype (abdomen missing). PORTUG. E. AFRICA: Beira, vi.1932 (*Miss A. Mackie, J. Ogilvie*) 2 ♀ paratypes. The type is the specimen mentioned by Malloch (1922, Ann. Mag. nat. Hist. (9) 10: 582) under *tripunctiventris* as "probably another species".

Caricea humilis multimaculata Ad.

UGANDA: Kigezi Dist. Mabungo Camp, 6000 ft., xi.34 (*J. Ford*) 1 ♂.

Typical locality: S. RHODESIA: Salisbury. In B.M. from typical locality, NATAL (Estcourt; Port Shepstone; Willow Grange; Hill Brook), NYASALAND (Ruo), ABYSSINIA and SUDAN (W. Darfur, Jebel Murra, Killing, 7000 ft., 7.iv.1932, (*Miss M. Steele*)).

The African form is certainly not quite identical with the European *humilis* Meig., though it was identified thus by Stein, Malloch, and Curran. The frons is hardly more than half as wide as one eye (Fig. 74), whereas in European specimens it is about three-fifths to three-quarters as wide as one eye, the difference in width lying entirely in the interfrontalia. The tibiae are, as a rule, less infuscate than generally in European specimens, and the plumosity of the arista is longer than in the latter. The curvature of r_{4+5} and *m*, which are distinctly diverging at apex, is as in *humilis* s.str.—I have, through the courtesy of Prof. H. B. Hungerford, seen Adams' types.

[Caricea curvinervis sp. n. ♀]

Length 2.8 mm.; *of wings* 2·7 mm.

Head black, densely grey dusted, frontal triangle ochraceous dusted, face silver-grey dusted, interfrontalia dull black, with brownish-white reflections when seen from in front. Frons projecting in profile by about one half the width of the third antennal joint, not quite twice as long as wide in front, longer than face; subparallel, very slightly narrowed from the reclinate seta to vertex, apparently two-thirds (slightly more than three-quarters if measured) as wide as one eye, fronto-facial stripe very slightly narrowed to apex of second antennal joint, moderately dilated and almost straight to lower margin of eyes, where it is one and a half times as wide as on frons, parafrontalia a third as wide as interfrontalia, with two moderate and one minute inclinate seta. Inner verticals rather strong, outer ones indistinct, postverticals and ocellars short but distinct. Antennae blackish, second joint silver-grey dusted interiorly at apex, third joint not quite thrice as long as wide, reaching lower sixth of eyes (the latter practically reaching level of mouth-margin), falling short of mouth-margin by half the length of the joint; arista bare on more than apical half, pubescent on basal half, the longest hairs hardly longer than basal diameter of arista. Palpi fuscous, the base slightly paler. Parafacialia less than half as wide, jowls not quite as wide as third antennal joint.

Thorax black, rather densely grey dusted, rather shining, dorsum with a conspicuous, narrow, dark brown median vitta and traces of a pair of linear vittae along the *dc*. *acr* very distinct though small, in two rows, 1 + 3 *dc*, two well developed *ia*; scutellum with two pairs of setulose hairs and the

normal two pairs of strong setae. Propleural and upper prostigmatal setae subequal, well developed though not strong, lower prostigmatal small, curved downward. *stpl* in an equilateral triangle which bears some erect hairs, anterior and lower *stpl* not very strong, posterior *stpl* long and strong.

Abdomen oval, pointed at apex, rather depressed, rather densely grey dusted but nevertheless rather glossy, second and third segments and base of fourth with a brown median vitta, first to third with a pair of rather large brown, roundish spots which are essentially confined to posterior half. Lateral setae of second and third segments rather small, fourth with a transverse row of two pairs of rather small setae before apex.

Legs with black, grey dusted coxae, trochanters and femora black, slightly dusted and rather glossy, tibiae testaceous, hind ones somewhat brownish in middle, tarsi piceous. Front femora with four *pd* in apical half, the second of them stronger, 5–6 small *p* setae of which the basal two are longer, and 6–7 *pv* alternating with fine ones, front tibiae with a long *pv* in middle; mid-femora with five *a* setae, the last at two-thirds and rather strong, six fine and short *av* in basal half, four long *pv*, and two strong preapicals (*p* and *pd*), mid-tibiae with a rather strong *pd* at middle and a strong *ad* at three-fifths; hind femora with six rather strong *ad* and *av* setae, three rather fine *pv*, alternating with very small ones, and a strong *pd* preapical, hind tibiae with a very long *ad* in middle and a strong *a* slightly basad of it.

Wings hyaline, strongly iridescent, veins brown with testaceous base, r_{4+5} rather strongly curved backward, ending almost in wing-tip, *m* slightly converging with it at apex, *r–m* at three-fifths of discal cell. Calyptrae whitish-hyaline, with yellowish-white borders, lower one slightly dilated from base to middle, broadly rounded at apex, rather strongly projecting beyond upper one, not quite twice as long as it. Halteres yellowish-white.

S. RHODESIA: Salisbury, 19.iii.1939, prey a Chironomid (*A. Cuthbertson*) ♀ type.

Caricea tigrina group

1(2). Parafrontalia pale dusted. Vibrissae just above mouth-margin, not more distant from it than by the apical width of the palpi. Frons distinctly narrower than one eye. All the femora distinctly yellow at apex. Base of m_3+cu_1 simple in both sexes. Thorax and first abdominal segment without pattern. Hind tibiae with an additional preapical seta. (Mediterranean, etc.) . . . . [*tigrina* F.]

2(1). Parafrontalia largely velvety black, not differentiated from interfrontalia. Vibrissae distant from mouth-margin by the width of the third antennal joint. Front femora very narrowly, mid and hind femora not at all yellow at apex. Base of m_3+cu_1 thickened and darkened opposite origin of r_{4+5} in male. Thorax with a pair of broad longitudinal vittae along *dc* to *ia*, and a narrow median vitta, which may be fused in front of suture. First abdominal segment usually with a distinct pair of spots.

3(4). Arista short-haired, the longest hairs hardly longer than the base of arista wide (Fig. 68). Tarsi piceous black. Vittae of thorax fused or narrowly separated in front. Legs with the usual short setulae, ventral spur of the hind tibiae about as long as the diameter of the hind femora. *cubitalis* sp. n., p. 181

4(3). Arista short-plumose, the longest hairs almost as long as the third antennal joint wide (Fig. 69). Tarsal joints 1–4 yellow, 5 piceous. Vittae of thorax broadly separated throughout. ♂: First joint of hind tarsi long and broad, legs rather hairy, hind tibiae and tarsi with dense hairs, which are longer than the tibial diameter; ventral spur of the hind tibiae long and curved (Fig. 72), twice as long as the diameter of the hind femora . . . . *hippelates* sp. n., p. 183

Caricea cubitalis sp. n. ♂ ♀

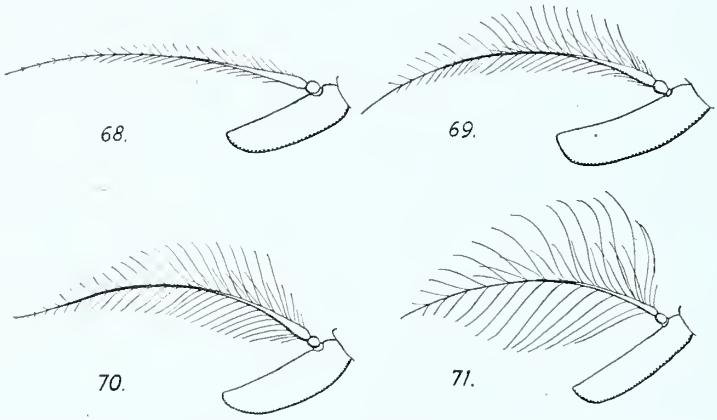
Length 4·7–6·9 mm.; *of wings* 4·8–7·1 mm.

♂. *Head* black, occiput rather thinly, face, parafacialia, jowls and temples densely whitish-grey dusted, in certain lights dark grey, frons including parafrontalia wholly brownish-black, with brownish reflections. Frons projecting in profile by width of third antennal joint, as long as face, almost one half longer than wide, slightly to considerably wider in front than one eye, slightly narrowed to vertex, face gradually widened with rounded sides from lunula to lower margin of eyes, where it is one and a half times as wide as frons; parafrontalia not very distinct, a third as wide as interfrontalia, with 5–7 inclinate frontals, the second and last of them strong, the fourth or fifth usually moderately strong, the others moderate to small. Inner vertical very strong, outer vertical strong to moderate, postverticals strong, ocellars very strong. Antennae fuscous, second joint densely silver-grey dusted interiorly at apex, third thrice as long as wide or slightly longer, apex reaching lower sixth to eighth of eyes (the latter falling short of mouth-margin by at least width of third antennal joint), as distant from mouth-margin as from base of arista; the latter short-haired, the longest hairs as long as or slightly longer than the basal diameter of arista (Fig. 68). Palpi fuscous. Parafacialia at least as wide as third antennal joint, jowls at least one and a half times as wide, vibrissae above mouth-margin by width of the third antennal joint.

Thorax black, densely dark grey dusted, brownish on dorsum, with greenish-blue reflections on pleurae, mesopleura with a large dark-brown spot from dorsal margin to middle, dorsum with the following not very striking pattern: a narrow median vitta and a pair of broad vittae from inward of the *dc* to outward of the *ia*, the vittae often more or less fused in front of suture, reaching centre of scutellum and lateral scutellar setae respectively. *acr* rather strong though short, in two irregular rows, 1 + 3 very strong *dc*, posterior *ia* strong, anterior one strong to absent; scutellum with short setulae and two pairs of

strong setae. Upper prostigmatal and propleural rather strong, lower prostigmatal fine but rather long, curved downward, surrounded by a few small hairs. *stpl* in an equilateral triangle, which bears rather numerous and strong, erect hairs, anterior *stpl* weak, lower one rather strong, posterior one very strong.

Abdomen moderately slender, slightly narrowed to apex, somewhat depressed at base, strongly compressed at apex, black, densely grey dusted, second to fourth segments without or with a faint, narrow, brown median vitta, first to fourth each with a pair of dark brown spots; second segment with a pair of strong lateral setae and weak sublateral setae, third and fourth each with two



FIGS. 68–71. Third segment and arista of left antennae of *Caricea*, exterior view. 68.—*cubitalis* sp. n. 69.—*hippelates* sp. n. 70.—*aristalis* sp. n. 71.—*pachypoda* Big.

pairs of strong discal setae, fourth also with a pair of rather strong lateral marginals, fifth with a pair of rather long setae and some hairs; fourth ventrite entirely grey dusted, inner margin of its lobes densely beset with fine, erect hairs, which are surrounded outwardly by some long, fine, erect hairs.

Legs moderately slender, coxae black, densely grey-dusted, anterior trochanters ferruginous, hind trochanters largely blackish, femora black, greyish dusted, fore femora very narrowly ferruginous at apex, tibiae pale ferruginous, very slightly infuscate near middle, rather conspicuously pale grey dusted, tarsi piceous. Front femora without *pd* setae or with only 1–2 stronger ones near middle and a few very small ones beyond them, 1–2 strong *a* setae near base and often a row of small ones continuing them, and seven strong *pv*, which alternate with fine ones, front tibiae with a long and strong *pv* at three-fifths; mid-femora with 6–8 rather strong *a* setae, 2–3 strong and rather numerous small *a* setae, four strong *pv*, alternating with small (sometimes

partly rather strong) ones, and two strong preapicals (*p* and *pd*), mid-tibiae with a strong *pd* almost at three-fifths and a strong *ad* at two-thirds; hind femora with five strong and sometimes 2–3 weaker *ad* setae, two strong *av* at one-third and beyond two-thirds, and smaller ones of unequal length, four moderately strong, not very long *pv* setae and a number of smaller ones, and a strong *pd* preapical, hind tibiae with a very strong and long *ad* somewhat beyond middle, a shorter though quite strong *a* seta slightly beyond it, and a row of fine setulae along more than apical half of *pd* surface.

Wings hyaline, veins brown, somewhat paler at base, r_{4+5} and m distinctly diverging at apex, r–m distinctly beyond middle of discal cell, m_{1+2} and particularly m_3+cu_1 strongly thickened and fuscous from the sub-basal transverse veins to almost level of the apex of r_1. Calyptrae pale yellowish with testaceous borders, the lower one much longer than the upper one, strongly projecting, subparallel to beyond middle, broadly rounded at apex. Halteres pale ferruginous.

♀ similar to male, the abdomen broader, more oval, pointed at apex, spots of the fourth segment not very distinct, all the wing-veins normal near base.

Kenya: Aberdare Range, Mt. Kinangop, x.-1.xi.1934 (*F.W.E.*) 8000 ft. ♂ type, 1 ♂ paratype; 9000 ft. 1 ♀ paratype; 12,000 ft. 1 ♂ 1 ♀ paratype; Kinangop, vi.1930 (*Turner*) 1 ♂ 3 ♀ paratypes. Mt. Elgon, heath zone, 10,500–11,500 ft., ii.1935 (*F.W.E.*) 1 ♂; alpine zone, 12,000–13,000 ft., 1 ♂. In the latter two males, which are otherwise identical, the veins defining the discal cell are only slightly widened at base. The male from Mt. Kinangop, 12,000 ft., has the setae considerably stronger than the other specimens.

Caricea hippelates sp. n. ♂.

Length 5·3 mm.; *of wings* 5·5 mm.

Head black, grey pollinose, interfrontalia dull black with brown reflections, dorsal median part of occiput fuscous dusted, lower part of jowls dark brown. Frons slightly wider than one eye, parallel, longer than wide, slightly shorter than the face, fronto-facial stripe slightly narrowed to base of arista, considerably widened with almost straight sides from there to lower margin of eyes; parafrontalia about a fifth as wide as interfrontalia behind base of antennae, almost half as wide as interfrontalia behind middle, with three strong and three small pairs of inclinate frontal setae. Inner vertical very strong, outer vertical rather strong, postverticals strong, ocellars very strong, as long as frons. Antennae black, second joint silver-grey dusted interiorly, third joint more than thrice as long as wide, apex separated from mouth-margin by more than half the length of the joint, reaching lower sixth or seventh of eyes, the latter not reaching level of mouth-margin; arista rather long-haired dorsally in more than basal half, the longest hairs slightly longer than the third

antennal joint wide (Fig. 69). Palpi black. Parafacialia two-thirds as wide as the third antennal joint, jowls with rather numerous, long and strong peristomal setae, distinctly wider than third antennal joint.

Thorax black, densely grey dusted, the dorsum with a pair of broad, dark brown vittae almost from anterior end to beyond lateral setae of scutellum and from just inward of *dc* to just outward of *ia*, and a narrow brown median vitta on presutural part, pleurae with a not very sharply defined dark brown vitta from propleurae to supraspiracular convexity. *acr* fine but not very short, in two rows with a few additional setulae on median line of presutural

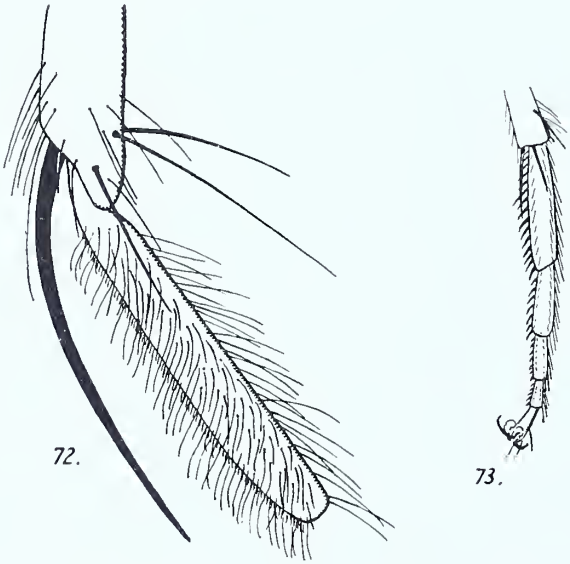


FIG. 72.—*Caricea hippelates* sp. n. Apex of left hind tibia and metatarsus, anterior view.

FIG. 73.—Left hind tarsus of *Caricea kilembana* sp. n., anterior view.

part and outward of the two rows in front of scutellum, 1 + 3 very long and strong *dc*, a moderate *ia*; scutellum with sparse, erect, setulose hairs and two pairs of strong setae. Two propleurals and prostigmatals, the lower one fine but rather long, the upper one rather strong and long, prostigmatals surrounded by some rather long hairs. *stpl* in an equilateral triangle which bears rather numerous, long, erect hairs, anterior *stpl* rather weak, the others strong, and an additional strong seta between them.

Abdomen rather short, oblong-oval, rather strongly compressed at apex, black, densely grey dusted with a narrow brown median vitta on segments 2–4 and a pair of rather large spots on segments 1–4, lateral seta strong, third segment with a pair of subdorsal setae near hind margin, fourth with a discal

transverse row of two pairs of setae, marginal setae indistinct among a row of long and strong hairs, fifth segment with a pair of setae and a pair of hairs between them, ventrites long-haired.

Legs very long, but not very slender, coxae black, trochanters pale ferruginous, femora piceous, dusted, tibiae and tarsi ferruginous, front tibiae somewhat infuscate in middle, last tarsal joint fuscous. Front femora with numerous long and strong hairs on posterior surface, without a distinct *pd* row, with about a dozen *pv* setae of very different size, about four of them very long and strong, front tibiae with a long and strong *pv* seta slightly beyond middle; mid-femora without a distinct *ad* row, but with about six moderate *a* setae, four long *pv* in basal half, and two strong preapicals (*p* and *pd*), mid-tibiae with a long and strong *pd* slightly beyond middle, but without an *ad* (in male at least); hind femora without strong setae, the *pd* preapical rather inconspicuous among the coarse hair, hind tibiae without submedian setae but with a large *ad* (setiferous?) pore at basal third, ventral (interior) spur very long and strong, half as long as the tibiae, evenly though not very strongly curved (Fig. 72), mid and hind tibiae densely haired on ventral surface, with not very dense, long hairs on *ad*, *d* and *pd* surfaces, tarsi, especially hind ones, with fine, long, curved hairs among the normal hairs, which themselves are rather long and strong, the curled hairs on *av* surface of hind tarsi partly as long as the femoral diameter.

Wings hardly smoky, strongly iridescent, veins brown, rather strongly thickened at basal half of discal cell, r_{4+5} and *m* distinctly diverging at apex, *r–m* just beyond middle of discal cell. Calyptrae whitish with pale yellowish border, the lower one strongly projecting, subparallel with broadly rounded apex. Halteres orange-yellowish.

♀ unknown, probably with the normal two setae on hind tibiae.

UGANDA: Ruwenzori, Bwamba Pass (west side), 5500–7500 ft. (*F W.E.*) ♂ type.

Caricea pachypoda Big.

Coenosia pachyoida Séguy, 1937, Gen. Ins. 205: 213 (errore).
n. syn. *Coenosia longiseta* Stein, 1907, Berlin. Ent. Zschr. 51: 78.

UGANDA: Ruwenzori: Kilembe, 4500 ft. (*F.W.E.*) 5 ♂ 4 ♀; Kyarumba, 4500 ft. (*D. R. Buxton*) 1 ♂ 4 ♀; Mbarara, 15.xi.34 (*F.W.E.*) 1 ♂.

Typical localities: Assinie; of *longiseta*: TOGO: Bismarckburg. In B.M. from: UGANDA: Mbale–Kumi Road, 3700 ft., S. of L. Salisbury; Hoima–Kampala Road, 2.i.12 (*R. E. McConnell*); SUDAN: W. Darfur, Jebel Murra, Killing, 7000 ft., 7.iv.1932, and E. Jebel Murra, Kirima, 5525 ft., 20.v.1932 (*Miss M. Steele*); TANGANYIKA: Tanga, vi.1932 (*J. Ogilvie*); ZANZIBAR; NYASALAND; NATAL; S. NIGERIA; GOLD COAST; SIERRA LEONE.

Very reluctantly I sink the excellent and well-known name *longiseta* as a

synonym of *pachypoda*. The latter was very briefly described in 1891. The long hairs of the arista (Fig. 71) were not mentioned by Bigot, but the "palpes fauves" might have suggested the present species, if the rareness of this character in *Caricea* had been appreciated. Through the courtesy of Mr. J. E. Collin I have been able to study the type of *pachypoda*.

Caricea strigipes group

1(10). Third joint of antennae pale yellow, not very long.

2(3). Vibrissae, anterior inclinate frontal setae, and palpi pale yellow. Scutellum with only the apical pair of setae. Lower calyptra short, not projecting. No *acr*. Body largely reddish-yellow to brownish-yellow. Legs entirely yellow, setae of legs rather short, the hind tibiae of the male (probably without an *a* bristle. ♂ 3 mm. . . [**flavivibrissata* Stein]

3(2). Vibrissae and inclinate frontal setae black. Scutellum with the usual two pairs of setae. Body mainly blackish, grey dusted. Lower calyptra long, strongly projecting beyond upper one.

4(7). Hind ocelli distinctly anterior to level of inner vertical setae. Parafrontalia distinctly pale dusted, interfrontalia blackish. Three distinct pairs of inclinate frontals, though the second one is small. Tarsi yellow.

5(6). Frons narrowed from first inclinate seta to vertex, hardly three-quarters as wide at hind ocelli as at first inclinate seta. Mid and hind femora with a preapical brown ring, of about a sixth the length of the femora, the apical sixth yellow. Legs very long and thin. Humeri and pleurae largely reddish-yellow. Abdomen reddish-yellowish translucent at base and apex . . . . *praeapicalis* sp. n., p. 188

6(5). Frons very slightly widened to third inclinate seta, parallel from there to vertex, slightly wider at hind ocelli than at first inclinate seta. Mid and hind femora with a brown apical ring of almost a third the length of the femora. Legs not very long. Humeri, pleurae, and abdomen entirely blackish, grey and brown dusted . [*attenuata* Stein], p. 189

7(4). Hind ocelli level with inner vertical setae or slightly posterior. Parafrontalia indistinct, as the whole frons is uniformly silver dusted in male (probably uniformly dark dusted in female). Two pairs of long and very thin inclinate frontals in male. Hind metatarsus (♂) twice as wide as that of the mid-tarsi. (In these silver-fronted males the ocellar bristles are present; see note, p. 222.)

8(9). All the femora with the apical quarter to third piceous. Hind tarsi piceous. Dorsum of thorax and abdomen densely grey dusted, the former with three brown vittae, the latter with a median vitta and a pair of spots on segments 1–4, which are brown dusted and are more or less fused. *gilvicornis* sp. n., p. 189

9(8). Front femora without any apical patch though with a narrow suffused fuscous stripe on entire dorsal surface, mid and hind femora with a very narrow apical fuscous ring which extends into a similar dorsal stripe. All the tarsi yellow. Dorsum of thorax and abdomen shining black, without conspicuous dusting . . . *nitida* sp. n., p. 191

10(1). Third joint of antennae black, though grey or whitish-grey dusted.

11(12). Front femora black, the mid and hind femora black on the apical fourth or more, tibiae more or less infuscate. Frons wholly silvery white pollinose in male . . . . [†*munroi* Curr.]

12(11). Front femora yellow or with a fuscous dorsal longitudinal stripe. Interfrontalia dark dusted and parafrontalia pale dusted in both sexes.

13(16). Legs very long and slender, hind tibiae of male without an *a* seta. Either the apical third of the posterior femora piceous, or the scutellum with only the apical pair of setae and the lower calyptra very small. Slender, somewhat larger species. ♂: 3·9–4·5 mm., abdomen elongate, compressed at apex, third and fourth ventrites densely beset with long, erect hairs.

14(15). Scutellum with only the apical pair of setae. Lower calyptra small and narrow, narrowed from base to apex, projecting beyond upper one by hardly the length of the latter, narrowly rounded at apex. Femora wholly yellow. Abdomen with a pair of inconspicuous transverse darker spots along hind margin of segments 1–4, without a median line. *gilvicoxa* sp. n., p. 192

15(14). Scutellum with the normal two pairs of setae. Lower calyptra normal, subparallel in basal half, projecting beyond upper one by more than twice the length of the latter; rather broadly rounded at apex. Front femora with a piceous dorsal streak on apical half, posterior femora with the apical third piceous. Abdomen with a pair of rather faint oblong spots and a complete median vitta on segments 1–4 . [*xenia* Mall.]

16(13) Legs normal, hind tibiae of male with a quite strong *a* seta. Posterior femora with at most a small brown point at the articulation of the tibiae. Scutellum with the normal two pairs of setae. Lower calyptra normal, subparallel in middle, rather broadly rounded at apex and projecting beyond upper one by approximately twice the length of the latter. Smaller species, ♂ 2·5–3·5 mm., ♀ 3–4 mm. Abdomen of male short, depressed or slightly compressed at apex, the last ventrites short-haired.

17(18). Arista short-plumose, distinctly wider, including plumosity, than the third antennal joint, the longest hairs almost as long as the latter is wide. Mid and hind femora of both sexes, besides setae, with short half-appressed hairs, which are shorter than the tibial diameter. Hypopygium of male more protruding. Thorax and abdomen (usually) less dusted and more shining, the former with the median vitta less distinct. *punctigera* Stein, p. 193

18(17). Arista pubescent, distinctly narrower, including pubescence, than the third antennal joint, the longest hairs not more than half as long as the latter wide. Hypopygium of male not much protruding. Thorax and abdomen densely grey dusted and dull.

19(20). Arista conspicuously pubescent, with the longest hairs about one-third to one-half as long as the third antennal joint wide. Ventral and posterior surfaces of mid and hind femora of male with numerous fine, erect, soft hairs, which are almost one-and-a-half times as long as the tibial diameter . . . . [*strigipes* Stein]

20(19). Arista very short pubescent, the longest hairs about as long as the basal diameter of the arista. Femora with short hairs in both sexes besides setae, the hairs being not quite as long as the tibial diameter. [*exigua* Stein], p. 194

Caricea praeapicalis sp. n. ♂

Length 4·2 mm.; *of wings* 4·5 mm.

Head black, densely grey dusted, parafacialia and facial ridges silver-white dusted, interfrontalia dull black with strong brownish reflections. Frons almost twice as long as wide in front, shorter than face, strongly narrowed behind with straight sides, four-fifths as wide in front as one eye, fronto-facial stripe somewhat narrowed to slightly beyond base of arista, rather strongly dilated and rounded to lower margin of eyes, where it is one and a half times as wide as frons at widest point; parafrontalia a sixth as wide in front, a third as wide behind middle as interfrontalia, with three inclinate frontal setae. Inner vertical strong, outer vertical weak, postocellars and ocellars minute. First and second antennal joints piceous, apex of the second joint testaceous-translucent, pale greyish dusted interiorly, third joint testaceous yellow, more than thrice as long as wide, apex reaching lower third of eyes but as distant from mouth-margin as from base of arista; the latter short-plumose, the longest hairs of dorsal surface as long as the antennal joint wide, the longest hairs of ventral surface just over half as long. Eyes reaching level of mouth-margin. Palpi light-brown. Jowls not quite as wide as third antennal joint, with one strong peristomal seta besides the vibrissae and the adjacent setae.

Thorax testaceous with piceous dorsum, the mesopleura, pteropleura and sternopleura partly infuscated, dorsum greyish-brown dusted, with a rather narrow dark-brown median vitta. *acr* almost absent, 1 + 3 moderate *dc*, one *ia*; scutellum almost devoid of setulose hairs, but with the normal two pairs of strong setae. *stpl* in an equilateral triangle, which is almost devoid of small hairs, anterior *stpl* weak, lower one moderate, posterior one strong.

Abdomen oblong-oval, slightly depressed, first abdominal segment testaceous-translucent, the bases of the next two segments indistinctly and narrowly so, sides of the first segment with a large transverse piceous spot along hind margin, the latter, however, remaining yellow, rest of the abdomen grey, grey dusted, second and third segments with a narrow median vitta and a pair of large, transverse, dark-brown patches along hind margin, fourth with a pair of round, brown spots, fifth segment and hypopygium testaceous, lateral setae rather strong, fourth segment with a transverse discal row of two pairs of setae, fifth with a pair of setae in middle.

Legs testaceous, mid and hind femora with a brown preapical ring, front femora with a slight preapical shadow on anterior surface. Front femora with three long *pv* setae, the other setae very small or lacking, front tibiae with a rather strong *pv* seta; mid-femora with the *av* and *ad* setae very small or lacking, two moderate *pv* in basal half, two small ones near two-thirds, and a rather small *p* preapical; mid-tibiae with a moderate *pd* just beyond middle and an *ad* at three-fifths, terminal spur long though not strong, slightly curved, somewhat

longer than that of the hind tibiae; hind femora with six short *ad* setae, four short *av*, two rather strong and two small *pv*, the former in the basal third, the latter in the second third, and a *pd* preapical, hind tibiae with a strong *ad* seta in middle and a rather small *a* seta at the same level.

Wings slightly smoky, veins brown, r_{4+5} and *m* diverging up to apex of r_{2+3}, parallel at apex, *r–m* beyond middle of discal cell. Calyptrae hyaline with yellowish-white border, lower calyptra normal, strongly projecting beyond upper one, subparallel in middle, apex rounded. Halteres testaceous-yellow.

UGANDA: Budongo Forest, 7.-8.ii.1935 (*F.W.E.*) ♂ type.

[**Caricea attenuata** Stein?]

longitarsis Mall., 1922, Ann. Mag. nat. Hist. (9)10: 579, 587; Curr. 1935, Amer. Mus. Novit. 776: 2, 7 (non Stein).

Typical localities: EGYPT: Alexandria and Cairo; of *longitarsis* Mall. non Stein. NATAL: Port Natal, *Plant* leg., in B.M.

The female specimen identified by Malloch as *Caricea longitarsis* (Stein) is in the B.M. *Coenosia longitarsis* Stein is, however, according to Stein, a synonym of *Spanochaeta dorsalis* v. Ros, and there is no reason for querying this synonymy, so much the less as Stein described both sexes and mentioned, among other characters, the absence of a seta on the front tibiae, by which character Malloch distinguishes *dorsalis* from *longitarsis*. I consider Malloch's species to be *attenuata* Stein, though the arista is short-plumose in basal half, not quite as wide as the third antennal joint, whereas it is said to be bare by Stein. The male of this species is said to have yellow antennae and yellow femora, while the female should have dark antennae and dark femora. My experience with the genus *Caricea* would not make this difference in the colour of the femora between the sexes of *attenuata* very probable. On the other hand Stein did not use the colour of the antennae in discriminating between *strigipes* Stein (*cingulipes* Stein, non Zett.) with dark antennae and *attenuata* in his key and remarks of 1913 (Ann. Mus. nat. Hungar. 11: 566, 578). I am satisfied, after all, that Stein mixed up two or three species in his descriptions of *attenuata*. I should think that the females of the original series, described in 1903, belong to *humilis* Meig., whereas the males described as *attenuata* in 1913 belong to *strigipes* or *exigua*. Stein himself admitted that one would meet with many specimens, in which the attribution to either of the two species, *strigipes* or *attenuata*, would remain doubtful. It may then be assumed that the female specimens of *attenuata*, mentioned in 1913, were actually *humilis multimaculata* Ad.

Caricea gilvicornis sp. n. ♂

Length 2·5 mm.; *of wings* 2·7 mm.

Head black, occiput grey dusted, fronto-facial stripe and jowls uniformly

silver-white dusted. Frons parallel, but slightly narrowed anteriorly, fronto-facial stripe slightly narrowed to middle of second antennal joint, slightly dilated but almost straight to lower margin of eyes, where it is a quarter wider than at vertex; parafrontalia hardly defined, with two fine but not short inclinate frontal setae. Inner vertical rather strong, outer vertical indistinct, postverticals and ocellars moderately long though fine. The two basal joints of the antennae fuscous, the second silver-white dusted interiorly at apex, third joint pale yellow, silver-white dusted, two and a half times as long as wide, reaching lower fifth of eyes, its apex as distant from mouth-margin as from base of arista; arista fuscous, very short-haired on basal half, the longest hairs slightly longer than its basal diameter. Palpi black. Parafacialia slightly more than half as wide as, jowls slightly narrower than, third antennal joint.

Thorax black, densely grey dusted, with three rather conspicuous brown vittae on *post* part, the subdorsal ones extending to *prst dc* and the median one just reaching hind end of *prst* part, scutellum with a not very conspicuous brown patch on disc. *acr* fine, in two rows, rather sparse in front of suture; 1 + 3 strong *dc*, posterior *ia* present, rather small; scutellum with two pairs of fine small hairs and the normal two pairs of strong setae. Two moderately fine propleurals and prostigmatals, the lower prostigmatal curved downward. *stpl* in a triangle which bears a few fine hairs and the posterior side of which is shorter, anterior *stpl* rather fine, lower one moderately strong, posterior one strong.

Abdomen suboval, not longer than thorax, depressed at base, compressed at apex, black, densely grey dusted, each segment with a large, transverse patch of dark brown dusting, which reaches the hind margin in its entire width and the front margin in middle, leaving a triangular patch of grey pollinosity on either side of front margin. Hair appressed and fine, a few stronger, erect hairs on sides, third ventrite with a pair of long, fine setae at apex.

Legs testaceous, mid and hind coxae dark grey with the apex reddish, apical third of femora and the hind tarsi piceous, mid-tarsi strongly infuscate, front tarsi ferruginous. Front femora with two *d* setae near apex, six rather small *pd* (the basal two of them longer) and six moderately long and fine *pv* setae, alternating with shorter ones, front tibiae with a long and strong sub-median *pv* seta; mid-femora with three moderate *ad* setae between basal quarter and two-thirds and two small ones in basal quarter, about six fine and short *av*, four moderately long and fine *pv* setae between base and two-thirds, and two preapicals (*p* and *pd*), mid-tibiae with a moderate *ad* and a rather small *pd*, the former almost at two-thirds, the latter a trifle more basad; hind femora with six moderate *ad*, a long *pv* in middle, a moderately long one before and beyond it and some small ones between them, one *pd* preapical and an *av* preapical and two or three other rather small setae between basal and apical thirds of *av* surface, hind tibiae with a strong *ad* and *a* seta in middle.

Wings slightly smoky, strongly iridescent, veins brown, with somewhat paler bases, r_{4+5} and m slightly converging at apex, r-m just beyond middle of discal cell. Calyptrae hyaline, borders yellowish-white, the lower one strongly projecting, broadly rounded at apex. Halteres pale yellow.

UGANDA: Ruwenzori, Namwamba Valley, 6500 ft. (*F.W.E.*) ♂ type.

Caricea nitida sp. n. ♂

Length 2·6 mm.; *of wings* 2·7 mm.

Head black, occiput glossy black, except for a stripe of whitish-grey dust between interior verticals and occipital foramen and the temples which are silver-white dusted, as are the entire fronto-facial stripe and the jowls. Frons slightly wider in middle than one eye, subparallel, very slightly widened from first to second frontal setae, longer than wide, fronto-facial stripe slightly narrowed to apex of second antennal joint, slightly rounded and dilated from there to lower margin of eyes, where it is about a quarter wider than at vertex; parafrontalia not defined, with two fine but not short inclinate frontal setae. Inner vertical strong, outer vertical indistinct, postverticals rather strong, ocellars rather weak, very close to postverticals (as are the ocelli). First and second antennal joints fuscous, the second translucent yellowish and densely silver-dusted interiorly at apex, third pale yellow, silver-white dusted, not quite thrice as long as wide, reaching lowest sixth of eyes, the latter reaching level of mouth-margin, apex of third antennal joint falling short of mouth-margin by almost half the length of the joint, arista fuscous with paler base, short-haired in basal half of dorsal surface, the longest hairs a third as long as the diameter of the third antennal joint. Palpi brown. Parafacialia and jowls half as wide as the third antennal joint.

Thorax black, dorsum, including humeri, glossy, very thinly grey and brown dusted, pleurae more densely grey dusted. *acr* very fine and sparse, in two rows, 1+3 *dc*, posterior *ia* not very long, scutellum with two pairs of fine but rather long hairs and two pairs of setae, which are very long. Two fine propleurals and prostigmatals, the lower prostigmatal curved downward. *stpl* in an equilateral triangle which bears one or two fine but rather long hairs, anterior and lower *stpl* subequal and rather small, posterior one very long and strong.

Abdomen black, dorsum glossy, thinly brown-dusted at base, devoid of dust on posterior half of first and on second to fourth segments, fifth tergite brownish-grey dusted, venter brown-dusted, hair of abdomen rather long, half-appressed, each segment with a transverse discal row of two pairs of setae which are not very strong, except for the subdorsal pair. Fourth ventrite strongly convex, semiglobular, though deeply cleft along median line.

Legs testaceous, mid and hind coxae largely grey, front femora narrowly

brownish along dorsal surface, mid-femora narrowly brownish on apical half of dorsal surface, hind femora with the extreme apex narrowly piceous. Front femora with 3–4 small *pd* setae and five moderate *pv* setae, front tibiae with a rather long and strong *p* seta; mid-femora with three small and one moderate *a* seta, the latter at three-fifths, *av* setae hair-like, somewhat longer only in basal half, four rather long *pv* setae, alternating with small ones, and two rather conspicuous preapical setae (*p* and *pd*), mid-tibiae with a rather long *ad* and a somewhat smaller *pd* just beyond it, both slightly beyond middle; hind femora with five *ad* setae, the last two stronger, three moderate and several small *av*, two rather strong *pv* and a small one near base, and a *pd* preapical, hind tibiae with a strong *ad* and *a* seta very close together just basad of middle.

Wings greyish-hyaline, strongly iridescent, veins brown, r_{4+5} and *m* slightly diverging at apex, *r–m* distinctly before middle of discal cell. Calyptrae hyaline-whitish, the borders yellowish-white, both rather small, the lower one, however, strongly projecting, broadly rounded at apex.

UGANDA: Ruwenzori, Kilembe, 4500 ft. (*F.W.E.*) ♂ type.

Caricea gilvicoxa sp. n. ♂

Length 3·9 mm.; *of wings* 4·4 mm.

Head black, densely grey dusted, the dorsal part of occiput and the parafrontalia more yellowish-grey dusted, face and parafacialia pale yellowish-grey dusted, lower part and jowls whitish dusted, interfrontalia dull black with brownish and whitish reflections. Frons longer than wide, shorter than face, rather strongly narrowed to vertex, distinctly wider in front than one eye, fronto-facial stripe very slightly narrowed to middle of face, slightly dilated and rounded from there to lower margin of eyes, where it is somewhat wider than frons at widest point; parafrontalia hardly a fifth as wide behind lunula, hardly a third as wide at reclinate seta as interfrontalia, with three inclinate frontal setae. Inner vertical strong, outer vertical very weak, hardly longer than the occipital setulae, postverticals rather weak, ocellars almost half as long as frons. Antennae black, the second joint pale greyish dusted interiorly at apex, third joint (broken in type) rather long and slender and reaching about ventral fifth of eyes (as may be supposed from the length of the shallow impressions on the face). Parafacialia moderately narrow, certainly less than half as wide as the third antennal joint. Eyes not quite reaching level of mouth-margin, two-thirds as long as high. Palpi piceous with paler base. Jowls slightly more than twice as wide as parafacialia.

Thorax black, grey dusted, dorsum greyish-brown dusted with a distinct brown median vitta, not reaching neck and narrowing behind suture, a pair of incomplete and not very conspicuous though rather broader lateral vittae along the *prst* and *ia* setae and traces of a subdorsal pair of vittae along the *dc*. *acr*

small and almost in one irregular row, 1+3 moderately strong *dc*, a long and strong *ia*; scutellum with a few fine short hairs and the apical pair of setae which is moderately strong, the lateral pair absent. Two small and fine propleurals and prostigmatals. *stpl* in an equilateral triangle which bears only one or two fine hairs, anterior *stpl* very weak, lower one moderate, posterior one strong.

Abdomen of moderate length, compressed in more than apical half, thinly grey dusted without a distinct pattern, the hind margins slightly darker except near middle. Lateral setae of first segment strong, of second and third very weak and inconspicuous, fourth segment with a marginal row of 2–3 pairs of rather strong setae, fifth with a pair of distinct setae near middle and some short hairs, third and fourth ventrites (first and second to a less degree) densely beset with fine, long, erect hairs, fourth ventrite entirely pruinose, dark grey, hypopygium largely ferruginous.

Legs very long and slender, wholly testaceous, only the tibiae towards apex and the tarsi somewhat more ferruginous to brownish. Front femora with a row of small *pd* setae, three rather small *p* setae near base and three rather fine *pv* from base to slightly beyond middle, front tibiae with a very fine *pv*; mid-femora with about five *a* setae, the last but one of which is inserted on middle and is somewhat stronger, four *pv*, the last of which is inserted on two-thirds and is rather strong, and a *pd* and *p* preapical (setae missing in type), mid-tibiae with an *ad* seta at two-thirds and apparently a *pd* just beyond middle; hind femora with six rather strong but not very long *ad*, 3–4 rather fine *av*, a *pd* preapical, and three moderately long and fine *pv* setae, alternating with small ones, hind tibiae (of male) with a single submedian seta just beyond middle of *ad* surface.

Wings slender, hyaline, somewhat smoky, veins pale brown, r_{4+5} and *m* parallel at apex, *r–m* just beyond middle of discal cell. Calyptrae yellowish-hyaline, very small, the lower one slightly projecting, elongate-trapezoidal, with rather narrowly rounded (though by no means pointed) apex. Halteres ferruginous-yellow.

UGANDA: Kigezi District, Mt. Sabinio, 8000 ft. xi.1934 (*F.W.E.*) ♂ type.

Caricea punctigera Stein

UGANDA: Ruwenzori, Kyarumba, 4500 ft. (*D. R. Buxton*) 1 ♂, 1 ♀; Kilembe, 4500 ft. (*F.W.E.*) 2 ♀.

Typical locality: UGANDA: Mujenje. In B.M. from NATAL: Port Natal and Pietermaritzburg, the latter specimen with prey.

I think that the present specimens are this species. Malloch identified as *punctigera* a form which I believe to be *strigipes*. The pubescence of the arista is always quite distinct against a white background in these forms.

In the Seychellean form described as *exigua* by Stein (typical specimens in B.M.) it is about as long as the arista is thick at base, in specimens from Kenya it has the same length or is even somewhat shorter, whereas in specimens from Port Natal (identified as *strigipes* by Malloch) and Nyasaland (identified as *punctigera* by Malloch) it is distinctly longer. The present specimens, however, have the hairs of the arista still conspicuously longer. The ventral surface of the hind femora bears long and fine, dense, erect hairs in the males from Nyasaland only in the material at hand, and this form must thus be regarded as *strigipes* Stein. It would seem to me that the present form, because of its longer pubescence of arista, simple mid and hind femora, and more protruding male hypopygium, must be identified as *punctigera* Stein. The specimen from Port Natal presents the same characters, but the pollinosity of thorax and abdomen is as in *strigipes*. The name *exigua* Stein would then be left for the form with simple male hind femora and short pubescence of the arista.

[**Caricea exigua** Stein]

n. syn. *Caricea flavipes* Ad. 1905, Kansas Univ. Sci. Bull. 3: 206.
n. syn. *Coenosia ethelia* Curr. 1935, Amer. Mus. Novit. 776: 7.

Typical localities: SEYCHELLES: Mahé; of *flavipes*: S. RHODESIA: Salisbury; of *ethelia*: TRANSVAAL: Pretoria and S. AFRICA: Barberton.—In B.M. from Mahé and from KENYA: Ruiru, 1.vi.1932 2 ♂, and 13.vii.1932 1 ♀, on coffee (*Le Pelley*).

Stein thought his *exigua* might be a synonym of his *strigipes* (1913, Ann. Mus. nat. Hungar. 11: 578), but the characters given in my key (p. 187) would not allow them to be regarded as identical. On the other hand, Curran's description of *ethelia* does not contain any characters which would enable it to be distinguished from the present species, and the information obtained from him only reads: traces to *strigipes*, but the arista is not conspicuously pubescent, the rays shorter than the thickness of the arista.

C. flavipes Ad. was regarded a synonym of *strigipes* Stein by Curran (1935, Amer. Mus. Novit. 776: 10), but Dr. Curran informs me that the paratypes before him run down to *exigua* in my key, and not to *strigipes*. The name *flavipes* was preoccupied twice in *Coenosia*, but not in *Caricea*, in which Adams described his species, and there is no reason for supposing that Williston's *flavipes* should be a *Caricea*, whereas Stein's species is definitely a *Coenosia*. So far the rules do not permit the retention of a secondary homonym though there is a strong and justified trend for revising the paragraph concerned in this direction.

Caricea aseta sp. n. ♂

Length 5·5 mm.; *of wings* 5·8 mm.

Head black, grey dusted, the dusting denser and pale yellowish-grey on

frontal triangle, parafrontalia, parafacialia and jowls; interfrontalia dull blackish, with brown and whitish reflections when seen from in front. Frons subparallel, very slightly narrowed to vertex, four-fifths as wide as one eye; fronto-facial stripe subparallel, very slightly narrowed from base of antennae to beyond insertion of arista, slightly widened to lower margin of eyes, where it is about a fifth wider than at vertex, parafrontalia a third as wide as interfrontalia, with two rather strong and 1–2 weak inclinate frontal setae. Inner vertical strong, outer vertical rather weak, postverticals moderate, ocellars long, more than half as long as frons, occipital setulae very few in number. Antennae dark fuscous, dust of second and third joints with whitish reflections in apical half, third joint thrice as long as wide, apex level with lower fifth of eyes, the latter not reaching level of mouth-margin; arista very short-plumose on its entire length, except close to base, three-quarters of the width of the third antennal joint including plumosity. Palpi fuscous at apex, amber on basal two-thirds. Parafacialia more than half, jowls one-and-a-half times as wide as the third antennal joint. Vibrissae slightly above mouth-margin.

Thorax blackish, whitish-grey dusted, testaceous on propleurae, pteropleurae, posterior part of sternopleurae, anterior margin of hypopleurae, the metapleurae and the sclerite behind the hypopleurae (epimeron of metathorax), dorsum with a not very conspicuous brown pattern: a fusiform median spot in front of scutellum, a round median spot on disc of scutellum, a narrow, incomplete, paramedian vitta between *acr* and *dc* and closer to the former, and an indistinct broad brownish area along *ia*, the paramedian vittae distinct only from *prst dc* to second *post dc*, but with a narrow vestigial extension to the neck. *acr* extremely sparse, almost absent, though in two rows, no *prsc*, 1+3 strong *dc*, one *ia* much behind level of *sa* and even somewhat behind second *post dc*, scutellum apparently bare, with only the apical pair of setae. Two propleural setae, the anterior one moderately strong, one moderately strong prostigmatal seta, the lower one replaced by one or two minute hairs. *stpl* in a triangle, the posterior side of which is somewhat shorter, the anterior *stpl* evidently weak.

Abdomen rather slender, translucent ferruginous at base, grey dusted, the dorsum largely and rather strongly infuscate, except along the margins and a median line which are rufous, hypopygium ferruginous; lateral setae distinct, though not very strong, hairs short, fine and sparse.

Legs entirely testaceous with the hind tibiae ferruginous and the front tarsi and the hind femora. Front femora with two *pv* and one *p* seta in basal fourth, front tibiae without a median seta (mid-legs missing), hind femora with two *av* setae in basal third and one on apical third, five rather short *ad* setae and one *pd* preapical seta, hind tibiae with a submedian *ad* and *a*, the latter weaker, on middle and slightly beyond the former.

Wings somewhat infuscate, the base narrowly hyaline, veins brown,

ferruginous near base, m_3+cu_1 strongly thickened and fuscous near base, r_{4+5} parallel at apex, *r–m* at middle of discal cell. Calyptrae whitish, borders yellowish, not very large, but the lower one strongly projecting, rather narrowly rounded at apex. Halteres yellowish.

KENYA: Aberdare Range, Mt. Kinangop, 9000 ft., x.1934 (*J. Ford*) ♂ type.

Caricea calopoda group

1(10). *a* bristle of the hind tibiae distinctly beyond the *ad* (Fig. 67) or absent (some males). Parafacialia half or more than half as wide as the third antennal joint (Figs. 75, 76). Frons almost or fully as wide as one eye, slightly narrowed to vertex. Coxae black or largely black, even usually the front coxae.

2(7). Large species: 6–9 mm. Parafacialia more than half as wide as the third antennal joint (Fig. 75). The upper and lower prostigmatal bristles normally surrounded by some small hairs.

3(4). *r–m* "surrounded by a round, dark brown spot", *m–m* "bordered with brown". Dark pattern of the thorax largely confluent in middle. 9 mm. . . . . [†*bequaerti* Curr.]

4(3). Cross-veins not clouded. Middle-sized species: 6–7·5 mm. Dark pattern of the thorax not confluent in middle.

5(6). Mesonotum with a very broad brown vitta on each side of disc, which is carried over anterior *lateral* angle of scutellum and which reaches or passes the *dc* as well as the *ia* laterally, and a fine median brown line which is neither contiguous to the lateral vittae nor continued over the disc of scutellum. Front femora entirely or almost entirely black. Tibiae sometimes more or less infuscate. Arista short-plumose, the plumosity shorter in apical half . . . [*inaequivitta* Mall.]

6(5). Mesonotum with a narrow, sometimes slightly disintegrated vitta along the *dc* on each side, a similar vitta along the *ia*, and a well developed median vitta of about equal width, the latter continued over the disc of the scutellum, whereas the lateral vittae do not or indistinctly reach the lateral angles of scutellum. Front femora yellow with a black streak on dorsal surface which does not reach apex. . [*aequivitta* sp. n.], p. 198

7(2). Medium-sized species, 4–6 mm. Parafacialia hardly more than half as wide as the third antennal joint (Fig. 76).

8(9). Arista short-haired, not fully as wide, including the hairs, as the third antennal joint. Usually no small hairs close to the two prostigmatal bristles. Femora with a conspicuous brown or black *pre*apical spot, the front femora entirely dark on dorsal surface, except at apex. Thorax with three or five more or less faint narrow longitudinal vittae, of which often the median one only is distinct. Abdomen very short with an incomplete median vitta and paired rounded spots on segments 2 and 3, fourth segment with traces of a similar pattern. *cuthbertsoni* Curr., p. 201

9(8). Arista with hairs, some of which are as long as or longer than the third antennal joint is wide (Fig. 70). The two prostigmatal bristles surrounded by some small hairs. Femora entirely yellow, without any trace of a dorsal apical or preapical patch (though with an elongate small brown patch on *av* and *pv* surfaces of apex). A well-developed anterior *post ia* present. Pattern much the same as in *cuthbertsoni*. *aristalis* sp. n., p. 201

10(1). The *a* bristle of the hind tibiae basad of or level with the *ad*. Parafacialia much less than half as wide as the third antennal joint. Frons much narrower, at most three-fourths as wide at vertex as one eye.

11(12). All the coxae black, grey dusted. Fore *stpl* long and strong, not weaker than the lower one. Third antennal joint much longer (almost thrice as long) than distance from its apex to mouth-margin, pointed at dorso-apical end, arista, including the plumosity, as wide as the third joint. *a* bristle of hind tibiae level with the *ad* bristle. Thorax indistinctly vittate laterally. . . . . [*natalia* Mall.]

12(11). At least the front coxae mainly or entirely yellow. Fore *stpl* weak, much smaller than hind and lower *stpl*. Third antennal joint not much longer than distance from its apex to mouth-margin.

13(24). *a* bristle of hind tibiae level with or slightly basad of *ad*. Second abdominal segment with a distinct lateral and third with a well-developed lateral and sublateral bristle.

14(17). Arista more or less pubescent near base, much narrower, including pubescence, than the third antennal joint. Normally two *post ia*, the anterior one level with *sa*. Prostigmatal bristles not surrounded by hairs (seldom one or two minute hairs present in front of the bristles). Epistoma distinctly though slightly rounded-produced between the vibrissae. Femora with a distinct dark apical spot. Dark pattern of thorax and abdomen rather extended though the three patches on the abdominal segments are never fused; pattern sometimes indistinct. *atroapicata* Mall., 15

15(16). Dark apical spot of the front femora confined to apical third or two-fifths. *a* seta of mid-tibiae long in females and in Tanganyika-males, variable in Nairobi-males. Dark pattern fainter and less extended, the greyish dusted paramedian area of abdominal segments 2 and 3 somewhat broader than the dark median vitta. *atroapicata atroapicata* Mall., p. 202

16(15). Dark apical spot of front femora very long, almost reaching base. Mid-femora with a dark apical streak that reaches middle. *a* seta of mid-tibiae very small in male. Dark pattern more conspicuous and more extended, the greyish-dusted paramedian area of abdominal segments 2 and 3 not broader than the dark median vitta, the dark patches more triangular and reaching hind margin of segment usually all over their width. Tibiae sometimes more or less infuscate. *atroapicata strigaria* Curr., p. 203

17(14). Arista short-plumose, as wide usually, including plumosity, as the third antennal joint. Usually one *post ia*. Prostigmatal bristles surrounded normally by small hairs. If the plumosity of the arista is not as wide as the third antennal joint (*lanipes*), these hairs are rather numerous and long.

18(21). Plumosity of arista confined to basal half, rather short, not as wide as third antennal segment. Abdomen without a dark pattern, thorax without a distinct pattern (at least in male).

19(20). Femora yellow with the apex rather narrowly blackish. Ventral surfaces of abdomen, femora and tibiae with dense, fine, long and erect hairs in male. 7 mm. . . . . *lanipes* sp. n., p. 203

20(19). Front femora black, mid-femora black with the base broadly yellowish, hind femora yellow on a little more than basal half. Ventral surfaces of

abdomen, femora and tibiae without abnormal villosity. 5–6 mm.
[†*burunga* Curr.], p. 204

21(18). Plumosity of arista reaching apex, as wide on basal half as the third antennal segment. Abdomen and thorax with a distinct dark pattern. Ventral surfaces of abdomen and legs with the normal bristles and short hairs. 4·5–5·5 mm.

22(23). Femora with a piceous apical spot. Tarsi more or less piceous. Fourth ventrite of male with a row of long, bristly hairs along its inner margins, several of which are almost as long as the lateral lobes of the ventrite.
punctipes Thoms., p. 205

23(22). Femora without a distinct apical spot, the front femora without a trace of a spot, the mid and hind ones with a small point at the articulation of the tibia. Tarsi yellow. Fourth ventrite of male with one hair only on each side which is about as long as the lateral lobes of the ventrite.
similis Stein, p. 205

24(13). *a* bristle of the hind tibiae well basad of *ad* (Fig. 66) (by only half the tibial diameter in *alba*, but then the second and third abdominal segments without distinct setae).

25(28). Femora with at most a small brownish spot at dorsal apex.

26(27). Tarsi brownish yellow, hardly darker than the tibiae. Lateral bristles of the scutellum weak or missing. Thorax with a distinct median vitta and traces of lateral vittae. Abdomen of female very slender, with (not very striking) hind marginal bands, setae on second and third segments well developed. Prostigmatal bristles not surrounded by hairs.
longiventris sp. n., p. 205

27(26). Tarsi piceous. Lateral bristles of scutellum strong. Thorax and abdomen without any markings, uniformly silver-grey dusted. Setae on second and third abdominal segments very weak and inconspicuous. Prostigmatal bristles surrounded by some small hairs. Wings whitish in basal half, infuscate in apical half. ♂ . . . . . *alba* sp. n., p. 206

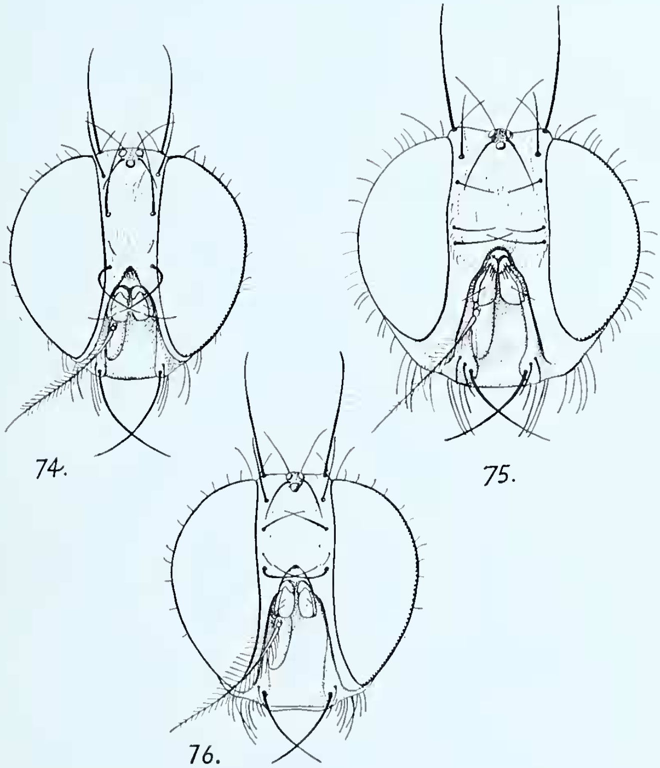
28(25). Front femora with a complete broad black dorsal stripe, mid and hind femora with a large black apical patch, occupying not much less than a half or a third of the length of the femora. Prostigmatal bristles surrounded by some small hairs. Scutellum with four strong bristles. Ventral surfaces of femora, tibiae and abdomen with very conspicuous, long, dense, and fine hair in male (Fig. 66). Setae on second and third abdominal segments rather weak, much weaker than on first and fourth segments . . . . *calopoda* Bezzi, p. 208

[**Caricea aequivitta** sp. n. ♀]

Length 6·8–7·5 mm.; *of wings* 6·8–7·0 mm.

Head (Fig. 75) black, densely grey dusted, parafrontalia, parafacialia, face, and jowls yellowish-grey, interfrontalia black, with brown reflections, the frontal triangle golden-grey. Frons slightly longer from first inclinate seta to posterior ocelli than wide anteriorly, considerably wider than one eye, shorter than face, fronto-facial stripe not distinctly narrowed to apex of second

antennal joint, widened and hardly rounded from there to the lower margin of eyes, where it is almost one-half wider than frons; parafrontalia a fifth as wide behind lunula as interfrontalia, with three strong inclinate setae. Inner vertical very strong, outer vertical weak, postverticals and ocellars strong. Antennae fuscous, apex of the second joint reddish translucent at apex, greyish



FIGS. 74–76. Heads of *Caricea*, dorso-frontal view. 74.—*humilis multimaculata* Ad. 75.—*aequivitta* sp. n. 76.—*aristalis* sp. n.

dusted interiorly at apex, third joint two-and-a-half times as long as wide, falling short of mouth-margin almost by its own length (lower margin of eyes falling short of mouth-margin by about width of third antennal joint); arista short-plumose, hairs of the ventral surface as long as basal diameter of arista, those of the dorsal surface two-thirds as long near base as third antennal joint wide. Palpi fuscous with brown base. Parafacialia as wide, jowls twice as wide as third antennal joint.

Thorax black, densely grey dusted, dorsum brownish-grey dusted with five narrow vittae along *acr, dc* and *ia*, median vitta broadly encroaching upon disc of scutellum. *acr* rather numerous, small, but distinct, in two rows with single additional setulae in front of suture and more numerous ones towards scutellum, 1+3 strong *dc*, posterior *ia* well developed, anterior one hair-like; scutellum setulose with two pairs of strong setae, the lateral pair slightly shorter. Posterior propleural and upper prostigmatal setae rather strong, lower ones moderate, the lower prostigmatal curved downward, surrounded by some small hairs. *stpl* in an almost equilateral triangle, which bears some erect hairs, anterior *stpl* rather weak, lower one rather strong, posterior one very strong.

Abdomen short-oval, only slightly longer than thorax, convex, pointed, densely grey dusted, with a narrow brown median vitta and a pair of not very large roundish brown spots on each segment, second segment with a rather distinct lateral seta, third segment with a lateral and sublateral pair, fourth with a transverse row of 2–3 pairs of rather fine setae.

Legs pale ferruginous, coxae black, front coxae with the apex more or less broadly pale ferruginous, front femora with a rather broad fuscous streak on dorsal surface from base to two-thirds or three-quarters, mid-femora infuscate along almost the entire dorsal surface, hind femora with a dark spot on dorsal surface before apex, the anterior and posterior surfaces with a short preapical streak near ventral surface, fifth tarsal joint fuscous. Front femora with 2–3 small *pd* near middle and a rather strong *ad* preapical, two rather long *p* setae near base, which are continued to apex by a row of small setae, six long and strong *pv* setae which alternate with finer setae, the last (preapical) one conspicuously stronger though slightly shorter, front tibiae with a strong *pv* at three-fifths; mid-femora with 4–5 rather short but strong *a* setae from base to two-thirds, about five short *av* in basal half, four strong *pv* in basal three-fifths, and two strong preapicals (*p* and *pd*), mid-tibiae with a very strong *pd* at three-fifths and a strong *ad* at almost three-quarters; hind femora with seven strong *ad*, 6–7 *av*, of which two are long and strong (at about one-third and two-thirds), 2–3 fine but rather long *pv* near base, a very long one at a third and a shorter but stronger one at two-thirds, and a strong *pd* preapical, hind tibiae with a very strong and long *ad* and a somewhat shorter *a* seta somewhat beyond it (by up to half the tibial diameter).

Wings slightly smoky, with brown veins, r_{4+5} and *m* parallel at apex, *r–m* at middle to distinctly beyond middle of discal cell. Calyptrae hyaline with yellowish borders and yellowish-white fringe, lower one rather long, subparallel, rather broadly rounded at apex, strongly projecting beyond upper one. Halteres ferruginous.

S. RHODESIA: Vumba Mts., iii.1938 (*A. Cuthbertson*) ♀ type; ii.1938 (*A. Cuthbertson*) 1 ♀ paratype; 1.ii.1935 (*Major Drysdale*) 1 ♀ paratype (in coll. A. Cuthbertson).

Caricea cuthbertsoni Curr.

Coenosia cuthbertsoni Curr. 1935, Amer. Mus. Novit. 776: 2, 7.

UGANDA: Ruwenzori, Nyamgasani Valley, 6400 ft. (*D. R. Buxton*) 1 ♀.

Typical localities: S. RHODESIA: Salisbury; NATAL: Durban—Seen from Salisbury; in B.M. from KENYA: Ruiru, 19.viii.1932 (*H. C. James*).

Caricea aristalis sp. n. ♂ ♀

Length 4·7–5·8 mm.; *of wings* 4·8–5·5 mm.

♂. *Head* (Fig. 76) black, densely grey dusted, pollinosity of frons and face more yellowish-grey, interfrontalia black but rather densely yellowish-grey dusted. Frons longer than wide, almost as wide as one eye, narrowed to vertex, fronto-facial stripe very slightly narrowed to apex of second antennal joint, moderately widened with almost straight sides to lower margin of eyes, where it is one-and-a-half times as wide as frons; parafrontalia not quite a quarter as wide as the interfrontalia, with 2–3 inclinate setae and 1–2 minute hairs. Inner vertical very strong, outer one almost indistinct, postverticals moderate, ocellars strong. Antennae fuscous, second joint ferruginous-translucent at apex, densely golden-grey dusted interiorly at apex, third joint not quite thrice as long as wide, reaching lower quarter of eyes (the lower margin of which almost reaches level of mouth-margin), its apex as distant from mouth-margin as from base of arista; the latter plumose to apex, the longest hairs as long as or slightly longer than the diameter of the third antennal joint (Fig. 70). Palpi fuscous, the base brown. Parafacialia approximately half as wide, jowls at most as wide as third antennal joint.

Thorax black, densely grey dusted, dorsum yellowish-grey dusted, with five indistinct, narrow, brownish vittae. *acr* rather numerous, in two rows with some odd ones on median line in front of suture and, outward of the two rows, in front of scutellum, 1+3 strong *dc*, two well-developed *ia*; scutellum setulose with two pairs of strong setae. Posterior propleural and upper prostigmatal moderately long, lower prostigmatal not very small, curved downward, prostigmatals surrounded by a few small hairs. *stpl* in an almost equilateral triangle, with some fine, erect hairs, anterior *stpl* weak, lower one strong, posterior one very strong.

Abdomen as long as thorax, oval, densely grey dusted, with a brown median vitta on second to third segments, which reaches neither front nor hind margins, segments 2–4 each with a pair of transverse, brown spots on disc which are small and more roundish on fourth segment. Lateral setae rather strong on the first to fourth segments, the third and fourth besides with a pair of subdorsal setae, fourth, moreover, with a fine lateral marginal seta, fifth with a pair of long hairs and some short ones, lobes of the fourth ventrite densely fine-haired along inner margin with long, fine hairs outwardly.

Legs wholly testaceous to pale ferruginous, except for the fifth joint of tarsi which is brown, a small preapical oblong, brown spot on the *av* surface and a still smaller one on the *pv* surface of all the femora, front coxae dark at base, mid-coxae largely blackish, hind ones largely brown. Front femora with a small *pd* preapical and 2–3 very small *pd* in and beyond middle, 2–3 rather strong *p* setae near base, 5–6 rather long *pv*, front tibiae with a strong and long *pv* at three-fifths; mid-femora with a few minute *a* setae near base and a small one towards middle, two strong *pv* in basal half and a small one at three-fifths, and a single *p* preapical, mid-tibiae with a moderate *pd* at three-fifths and a strong *ad* at two-thirds; hind femora with a few *a* setae near base, an *ad* and *pd* preapical (the former more basad), a few small *p* and *pv* setae near base and a rather strong *pv* towards the basal third, hind tibiae only with a long and strong *ad* in middle.

Wings slightly yellowish-smoky, veins light brown, r_{4+5} and *m* slightly diverging at apex, *r–m* very distinctly beyond middle. Calyptrae yellowish-hyaline, with the border pale yellow, lower calyptra much longer than the upper one, strongly projecting, subparallel in middle, broadly rounded at apex. Halteres testaceous.

♀ similar to male, the interfrontalia much less grey-dusted, the abdomen pointed, the spots of the fourth segment round and very small, the small *pv* spot lacking on the front femora, these femora with a complete row of *p* setae, the setae on all the femora stronger, the *pv* of the front femora alternating with fine, short setae; mid-femora with three long *pv* setae in basal half, a rather long one at three-fifths, a few small ones between the others, and the normal two preapicals (*p* and *pd*); hind femora with a complete row of six rather strong *ad*, the last of which is the *ad* preapical, and a strong *av* at one-third and two-thirds, hind tibiae with a long and strong *ad* at middle and a somewhat shorter *a* seta distinctly though not very far beyond it.

UGANDA: Budongo Forest, 7.-8.ii.1935 (*F.W.E.*) ♂ type; Kampala, 8.ix.1918 (*C. C. Gowdey*) 2 ♀ paratypes; Mubende, 14.iv.1931 (*H. Hargreaves*) 1 ♀ paratype (returned to Mr. Hargreaves); Bwamba Forest, Semliki Valley, 2300–2800 ft., 3.-7.xi.1911 (*S. A. Neave*) 1 ♀ paratype.

This species would run down to *similis* Stein in Malloch's key, though the words "arista short-haired" would not fit. According to Stein's description the arista of *similis* is "breviter pilosa" or "brièvement villeuse". His figure shows the arista, including pubescence, to be hardly wider at base than the third antennal joint, whereas in *aristalis* it is more than twice as wide as the third joint.

Caricea atroapicata Mall.

UGANDA: Ruwenzori, Kilembe, 4500 ft. (*F.W.E.*) 2 ♀.

Typical localities: TANGANYIKA: Kondoa Irangi and Ufiomi (both in B.M.). In B.M. from KENYA: Nairobi, vii.1930 (*Van Someren*) and Ngong, v.1936 (*Miss Steele*).

Caricea atroapicata strigaria Curr.

Coenosia strigaria Curr. 1935, Amer. Mus. Novit. 776: 11.

KENYA: Aberdare Range, Thompson's Falls, 7500 ft., x.1934 (*F.W.E.*) 2 ♂, 1 ♀. Mt. Elgon, heath zone, 8500 ft., ii.1935 (*F.W.E.*) 1 ♂.

Typical locality: W. TANGANYIKA.—In B.M. from ABYSSINIA. Seen from KENYA: Chyulu Hills, 5500 ft., iv. and v.1938 (*Coryndon Museum Exped.*).

Dr. Curran informs me that the type of *strigaria* runs down to the present subspecies in my key, but that the abdominal markings are very poorly defined and the tibiae are not at all darkened. As in the material at hand the tibiae are only sometimes more or less infuscated, and as the type of pattern of *strigaria* is the same as that of my material (see Curran's description), the identity is not in doubt. With regard to *C. leopoldi* Curr. (1929, Rev. Zool. Bot. afr. 17: 247) from Burungu and Kivu in the Belgian Congo, Dr. Curran reports that it "comes out with *strigaria* but the disc of the mesonotum is greyish instead of brown". The differences in coloration are evidently small, and if the two forms should prove to be synonymous, they would have to take the name *leopoldi* Curr.

Caricea lanipes sp. n. ♂

Length 6·8 mm.; *of wings* 7·2 mm.

Head black, densely grey-dusted, interfrontalia dull black with brown reflections. Frons almost twice as long as wide, parallel, not quite two-thirds as wide as one eye, almost as long as face, fronto-facial stripe very slightly narrowed to apex of second antennal joint, rather strongly dilated and very slightly rounded to lower margin of eyes, where it is two-thirds wider than above antennae; parafrontalia a third as wide in front, not quite half as wide in middle as interfrontalia, with four (and a very small) inclinate frontal setae. Inner vertical strong, outer vertical not distinct, postverticals and ocellars moderate. Antennae fuscous, the second joint with yellowish-grey dust interiorly, third joint almost thrice as long as wide, reaching lower fifth of eyes, its apex distant from mouth-margin by almost its length; arista long, smaller apical half bare, basal half short-plumose, not quite as wide, including plumosity, as third antennal joint. Palpi fuscous with paler base. Jowls slightly wider than third antennal joint.

Thorax black, densely grey-dusted, dorsum, including humeri, yellowish-grey dusted, without a pattern, except for two short anterior vittae and some

irregular small spots of thinner pollinosity. *acr* fine, in two rows with some additional hairs behind, 1+3 long and strong *dc*, posterior *ia* rather strong (anterior one distinct on one side); scutellum with a few single setulae and two pairs of strong setae. Posterior propleural rather strong, anterior one rather fine, prostigmatals fine, the lower one curved downward, surrounded by rather numerous fine hairs. *stpl* in an almost equilateral triangle with rather numerous long, erect hairs, the posterior side somewhat shorter, anterior *stpl* fine, posterior and lower *stpl* subequal and very strong.

Abdomen oblong-oval, hardly longer than thorax, rather depressed, uniformly and densely grey-dusted, without any pattern, fourth ventrite black and shining. Lateral setae very strong on segments 2–3, fourth segment with a transverse discal row of two pairs of strong setae, fifth with two pairs of setae, venter with rather dense, erect, fine hairs, dorsal hairs appressed on disc, erect near sides.

Legs pale ferruginous, mid and hind coxae partly grey, front femora with a dorsal piceous streak over almost apical half, mid and hind femora with the apical fifth or sixth piceous, tarsi piceous. Front femora with ten rather fine *pd* setae and about nine long and fine *pv* setae, some of which are not very distinct among the rather long, fine, erect hair that clothes the front femora, front tibiae with a strong *pv* seta at two-fifths, *v.* surface densely covered with fine appressed hairs, *p* surface with numerous long, fine hairs, ventral surface of mid and hind femora and tibiae very densely clothed with fine erect hairs of moderate length, the hairs somewhat longer but less dense on the anterior and posterior surfaces of the mid-legs and the anterior surface of the hind legs, mid-femora with a few *ad* setae only near base, and five very long and fine *pv* setae in basal half, *p* and *pd* preapicals long and strong, mid-tibiae with a rather strong *pd* seta at middle and a fine *ad* seta at three-fifths; hind femora with about eight moderate *ad*, three long *pv* in basal half, and two *pd* near apex, hind tibiae with a very strong *ad* and *a* seta at middle, practically level with each other.

Wings subhyaline, the apical half slightly infuscate, veins brown with testaceous base, r_{4+5} and *m* distinctly converging to apex, *r–m* slightly beyond middle of discal cell. Calyptrae hyaline with whitish margin, the lower one strongly projecting, twice as long as the upper one, subparallel (slightly dilated from base to middle), rather broadly rounded at apex. Halteres pale yellow.

UGANDA: Ruwenzori, Namwamba Valley, 6500 ft. (*F.W.E.*) ♂ type.

[**Caricea burunga** Curr.]

Coenosia burunga Curr. 1935, Amer. Mus. Novit. 776: 9.

Dr. Curran writes that this species runs in the key p. 196 to *lanipes* (but does not possess the long pile), if the *a* is only a little before the *ad* (it differs on the

two legs in the male but would fall here in the female); if the *a* is well before the *ad*, it would be *calopoda* but differs at once in the colour of the legs.

Caricea punctipes Thoms.

UGANDA: Ruwenzori, Mobuku Valley, 4500 ft. (*F.W.E.*) 1 ♀; KENYA: Mt. Elgon, Kapretwa, 6500 ft. (*F.W.E.*), 3 ♂.

Typical locality: Cape. In B.M. from UGANDA, 1918 (*C. C. Gowdey*); Kampala, 8.ix.1918 and 17.xi.1915 (*C. C. Gowdey*).

Caricea similis Stein

KENYA: Mt. Elgon, Kapretwa, 6500 ft. (*F.W.E.*) 1 ♂.

Typical locality: TANGANYIKA: Kilimanjaro. In B.M. from ABYSSINIA.

Caricea longiventris sp. n. ♀

Length 5·5 mm.; *of wings* 5·1–5·2 mm.

Head black, densely grey dusted, interfrontalia black with brown reflections in anterior view, parafrontalia pale-grey dusted exteriorly, brownish-dusted interiorly. Frons very slightly narrowed to vertex with almost straight sides, two-thirds to three-quarters as wide as one eye, fronto-facial stripe widest above lunula, hardly narrowed to beyond the base of arista, rather strongly widened and rounded to lower margin of eyes, where it is almost one-and-a-half times as wide as at vertex; parafrontalia a quarter as wide as interfrontalia, with two strong and one small inclinate frontal setae. Inner vertical very strong, outer vertical weak, postverticals rather weak, ocellars small and weak. Antennae black or fuscous, second joint with pale grey dust interiorly at apex, third joint two-and-a-half times as long as wide, reaching lower quarter of eyes, its apex as far from mouth-margin as from base; arista short-plumose throughout, almost as wide, including plumosity, as third antennal joint. Palpi piceous, the base somewhat paler. Parafacialia narrow, less than a third as wide, jowls almost as wide anteriorly as the third antennal joint, vibrissae above mouth-margin by the anterior width of the jowls.

Thorax black, brownish-grey dusted on dorsum, with five narrow, brown vittae, the subdorsal ones (along the *dc*) interrupted, pleurae grey dusted. *acr* fine, in two paramedian rows, with a few additional hairs before scutellum, no *prsc*, 1+3 strong *dc*, anterior *post ia* hair-like, posterior one moderately strong, scutellum sparsely setulose, apical pair of setae strong, lateral pair weak or absent. Propleurals and prostigmatals fine, the lower prostigmatal curved downward. *stpl* in an equilateral triangle, the area with a few hairs and a rather strong seta (fourth *stpl*), anterior *stpl* fine, lower one moderate, posterior one very long and strong.

Abdomen long and slender, fusiform, somewhat depressed and curved downward, not very densely grey dusted, first to third segments with a dark brown band at hind margin, which occupies the posterior third of these segments and is sub-interrupted on median line by some faint, greyish pollinosity, first to third segments with distinct lateral setae, the third besides with a finer pair of sublateral setae, fourth segment with two pairs of fine discal and marginal setae, forming two transverse rows.

Legs very slender, yellow with a brown subapical shadow on mid and hind femora, mid and hind coxae blackish exteriorly near base. Front femora with 4–5 short but quite conspicuous *d* setae before and at middle, a *pd* row, of which only 4–5 setae near base are distinct but not very long, a *pv* row of four very long setae, alternating with short ones, two of the long setae near middle about half as long as the femur, front tibiae with a very long *pv*; mid-femora with a row of short *av* setae, two strong *a* setae near middle, a row of four very long *pv* (two of them near middle, about half as long as femur), alternating with short ones, and with a single strong *pd* preapical, mid-tibiae with a long and strong *ad* at three-fifths and an even longer *pd* somewhat beyond middle; hind femora with two strong *av* at a third and two-thirds, 4–5 *ad* in basal two-fifths, one *ad* at two-thirds and a preapical *ad*, a preapical *pd*, and three very long *pv* setae, hind tibiae with a strong *ad* seta at middle and a slightly smaller *a* seta basad of the *ad* almost by the diameter of the tibia.

Wings hyaline, slightly smoky, veins brown, r_{4+5} and *m* slightly converging at apex, the former gently curved, the latter straight, *r-m* in middle of discal cell. Calyptrae hyaline with pale yellowish border, the lower one strongly protruding, subparallel, rather narrow, halteres yellow.

UGANDA: Ruwenzori, Nyamgasani Valley, 8000–9000 ft. (*D. R. Buxton*) ♀ type, 1 ♀ paratype.

Caricea alba sp. n. ♂

Length 4·7–5·5 mm.; *of wings* 5·0–5·4 mm.

Head black, densely grey dusted, interfrontalia dull black, with whitish reflections when seen from in front. Frons rounded in profile, slightly projecting beyond eyes at base of antennae, almost twice as long as wide, three-quarters as wide in front as one eye, slightly narrowed to vertex, as long as face, fronto-facial stripe slightly narrowed to apex of second antennal joint, gradually widened with weakly rounded sides to lower margin of eyes, where it is one-and-a-half times as wide as on frons; parafrontalia half as wide as interfrontalia, slightly more than half as wide at second frontal setae, with two strong and between them a moderate and a minute, or a minute, a moderate and another minute frontal seta. Inner vertical strong, outer vertical weak, but rather distinct, postverticals and ocellars not very strong. Antennae fuscous, second

joint greyish dusted interiorly at apex, third joint somewhat grey dusted, two-and-a-half to three times as long as wide, its apex as distant from mouth-margin as from base of arista, reaching lower fifth of eyes (the latter not quite reaching level of mouth-margin); arista short-haired in basal half, the longest hairs a third to a half as long as the diameter of the third antennal joint. Palpi fuscous with the base brown. Parafacialia less than half, jowls not quite so fully as wide as the third antennal joint, a strong seta above the vibrissae.

Thorax black, densely and uniformly pale grey dusted. *acr* fine, in two irregular rows, 1+3 long and strong *dc*, the three *post dc* increasing in size, posterior *ia* well developed; scutellum very finely and minutely setulose, with two pairs of strong setae, the lateral pair slightly shorter. Posterior propleural and upper prostigmatal not very strong, lower prostigmatal fine, curved downward, surrounded by some small hairs. *stpl* in an almost equilateral triangle which bears rather numerous long, erect hairs, and the posterior side of which is slightly shorter, anterior *stpl* rather weak, lower and posterior *stpl* equal, very long and strong.

Abdomen rather depressed at base, slightly compressed ventrally at apex, black, densely and uniformly pale grey dusted. Second and third segments without distinct setae, the fourth with a transverse discal row of 2–3 pairs of strong setae and a long and fine lateral marginal seta, fifth segment with a pair of long and fine decussate setae and a pair of smaller ones outward of them, fourth ventrite densely short-haired along inner margins of lobes, with rather numerous, long, erect hairs towards outer side.

Legs testaceous, coxae densely whitish dusted, femora with a suffused brown to piceous patch at apex of dorsal surface which more or less encroaches upon anterior and posterior surfaces on the posterior femora, tarsi piceous. Front femora with 6–7 strong *pd*, about three very long *p* near base which are followed by some others which rapidly decrease in length, three long *pv* in basal half, alternating with fine ones, and much shorter ones in apical half, front tibiae with a very long *pv* seta in middle; mid-femora with 4–5 very long *a* setae in basal half, 3–5 long *pv* in basal three-fifths, a complete row of short and fine *p* setae, and two preapicals (*p* and *pd*), mid-tibiae with a strong *pd* on middle and a very fine but long *ad* at two-thirds; hind femora with six long *ad*, the first and last (preapical) of these shorter, 4–6 fine and rather short *av*, 2–5 fine *p* in basal two-fifths, five long *pv* in basal two-thirds, the second and last of them shorter, hind tibiae with a long and fine *a* at and a very long and somewhat stronger *ad* slightly beyond middle (by half the tibial diameter).

Wings whitish in basal half, somewhat smoky in apical half, the difference very inconspicuous when seen on one wing under higher magnification, but very evident, if both wings are seen with naked eye behind each other against a white background, veins brown in apical half and turning gradually pale testaceous near base, r_{4+5} and *m* slightly diverging at apex, *r-m* slightly beyond

(or at) middle of discal cell. Calyptrae whitish-hyaline with whitish border and fringe, rather large, the lower one strongly projecting, distinctly dilated from base to middle, apex broadly rounded. Halteres whitish-yellow, the knob pale reddish at apex.

UGANDA: Ruwenzori, Mobuku Valley, 7300 ft. (*F.W.E.*) ♂ type, 1 ♂ paratype; Kilembe, 4500 ft. (*F.W.E.*) 3 ♂ paratypes; Kampala, 3.ix.1918, 13.xi.1917, 14.xi.1917 (*C. C. Gowdey*) 5 ♂ paratypes; Nairobi, vii.1930 (*Van Someren*) 1 ♂ paratype (returned to Coryndon Memorial Museum, Nairobi).

Caricea calopoda Bezzi

UGANDA: Ruwenzori, Mobuku Valley, 7300 ft. (*F.W.E.*) 1 ♂; Namwamba Valley, 6500 ft. (*F.W.E.*) 1 ♂ 1 ♀. Typical locality: Adi Caiè (ERITREA). Reported from KENYA: Aberdares (*Malloch*); UGANDA: Behungi (*Curran*); N.W. TANGANYIKA (*Curran*); BELG. CONGO: Kibati (*Curran*). In B.M. from KENYA: S. Masai-Reserve, 25.iv.13 (*T. J. Anderson*), 1 ♀.

Bezzi as well as Malloch knew females only, when they dealt with this species. The arrangement of the bristles on the hind tibiae was not described by Bezzi. Thus some reserve in the use of Bezzi's name is warranted. The male described by Curran (1935, Amer. Mus. Novit. 776: 11) is a very pale form; the two males in the present collection have brown markings, though these are much less conspicuous than in the female. The outstanding character of the male is the fine and dense, long, erect hair on the ventral surfaces of the abdomen, femora and tibiae, the femora being very long-haired all round. The male form identified as *calopoda* by Stein (1913, Ann. Mag. nat. Hungar. 11: 578) can hardly be this species; it may be *atroapicata* Mall.

Caricea nigritibia sp. n. ♂ ♀

Length 5·3–6·3 mm.; *of wings* 5·9–7 mm.

♂. *Head* black, densely grey dusted, except on median dorsal part of occiput which is fuscous, frons which is dark brown dusted (the interfrontalia being dull black in a strictly dorsal view), face, parafacialia and jowls which are golden dusted. Frons subparallel, very slightly widened to vertex (especially in anterior half), four-fifths as wide behind as one eye; fronto-facial stripe somewhat narrowed to base of arista, rather strongly widened to lower margins of eyes, where it is about a fifth wider than at vertex; parafrontalia one-third as wide as interfrontalia, with 3(–4) inclinate frontal setae. Inner vertical strong, outer vertical rather weak, postverticals and ocellars rather strong. Antennae dark fuscous, apex of second joint golden pruinose on dorso-interior surface, third joint thrice as long as wide, apex reaching lower fifth of eyes, the latter almost

reaching level of mouth-margin; arista very short-pubescent on dorsal surface near base, the longest hairs shorter than the width of the thickened basal part, the apical half and ventral surface bare. Palpi black. Parafacialia almost half, jowls one-and-a-half times as wide as the third antennal joint. Vibrissae slightly above mouth-margin.

Thorax black, densely grey dusted, the dorsum, including scutellum but excluding humeri, dark brown dusted. *acr* sparse and fine but not very short, in two rows, no *prsc*, 1+3 strong *dc*, two strong *ia*, the anterior one slightly before level of *sa*, scutellum bare except for two or three pairs of setulose hairs and two pairs of strong setae. Two propleural and two prostigmatal setae, the dorsal ones strong, the ventral ones moderate, no small hairs round about. *stpl* in a triangle, the posterior side of which is somewhat shorter, and the area of which bears a number of rather long setulose hairs, anterior *stpl* slightly weaker, posterior considerably stronger than lower *stpl*.

Abdomen elongate-oval, grey dusted with a large transverse patch of dark brown pruinosity on each segment, only a narrow front margin (interrupted on median line) and narrow lateral margins remaining grey, dark patch of fourth segment subtriangular, its apex reaching hind margin of third segment; second segment with a pair of distinct lateral setae (and two pairs of smaller setae rather close to them), third and fourth segments each with three pairs of discal setae in a transverse row, fifth with a pair of setae and two pairs of setulose hairs.

Legs moderately slender, black, except on basal half of hind and basal third of mid-femora, which are yellow, base of front tibiae dark ferruginous, front and mid-trochanters ferruginous. Front femora with six long and fine *pv* and 5–6 rather short *pd*, front tibiae with a moderate *pv*, mid-femora with four strong *a* and 3–4 *pv* in basal half, mid-tibiae with a moderate *ad* and *pd*, both somewhat beyond middle, but the *pd* very close to it, hind femora with 5–6 moderate *ad*, 2–3 long *av* and *pv* and a *pd* preapical, hind tibiae with a strong *ad* seta in middle, *a* absent.

Wings hyaline, the veins brown, rather broadly though slightly infuscate, the infuscation taking up almost all the anterior half of the wing, as only a narrow apical streak in R_3 and a narrow long streak in R_5 remain hyaline. r_{4+5} slightly curved at apex but parallel, *r-m* slightly beyond middle of discal cell. Calyptrae whitish-hyaline, the border yellowish, lower calyptra strongly projecting. Halteres reddish-yellow.

♀ similar to male, the abdomen somewhat broader and more pointed, the fourth segment only with a median vitta which may be subtriangularly dilated at apex. In one female the third segment has three separate spots and the second a median vitta and a pair of very large spots which approach the median vitta very closely at some places. The *a* seta of the hind tibiae well developed, practically level with the *ad*.

KENYA: Aberdare Range, Mt. Kinangop, 8000 ft., Cedar Forest, x.1934

(*F.W.E.*) ♂ type, 2 ♀ paratypes; 9000 ft., 2 ♀ paratypes. North of Mt. Kenya, 8300 ft., 18.ii.1911 (*T. J. Anderson*), paratype, abdomen missing.

The *a* bristle and its pore on the hind tibiae of the single male at hand are lacking, as in the males of a few other species (*vittata*, some males of *inaequivittata*, etc.). The present species, which seems to connect the *calopoda* and *rebmanni* groups, was identified as *fumipennis* Stein by Malloch (1922, Ann. Mag. nat. Hist. (9)10: 583). As its hind tibiae, however, are entirely black (except sometimes for a slightly paler basal zone), whereas they are said to be " zum grössten Teil blassgelb " by Stein, I refer the species from the Namwamba Valley to *rebmanni* Speis. (= *fumipennis* Stein, non Lamb), so much the more as the antennae are said to be rather slender and long, inserted above the middle of the eyes. This would apply to the Namwamba species, but not to the present form.

Caricea mgahingana sp. n. ♂

Length 4·3 mm.; *of wings* 4·8 mm.

♂. *Head* black, densely grey dusted, median dorsal part of occiput fuscous, frons dark velvety brown with light reflections, the interfrontalia black in a strictly dorsal view, face (incl. parafacialia) with silver-white dust. Frons parallel, slightly wider than one eye, not much longer than wide, much shorter than face, fronto-facial stripe slightly narrowed to beyond base of arista, widened to lower margin of eyes, where it is as wide as in middle of frons, parafrontalia hardly a fifth of the width of the interfrontalia, with 3(-4) inclinate frontal setae. Inner vertical strong, outer vertical rather weak, postverticals and ocellars rather strong. Antennae fuscous with slight whitish reflections, third joint long and broad, more than thrice as long as broad, passing lower margin of eyes and almost reaching mouth-margin, arista very short-haired on greater middle half of its dorsal surface, the longest hairs hardly longer than the basal width of arista. Palpi piceous. Parafacialia very narrow, about a fifth as wide as third antennal joint, jowls as wide as third antennal joint. Vibrissae level with mouth-margin.

Thorax black, densely grey dusted, the dorsum, including scutellum but excluding humeri, dark dusted. *acr* sparse but rather strong, in two rows, on stronger *prsc*, 1+3 *dc*, two strong *ia*, the anterior one much in front of the *sa* and slightly behind level of first *post dc*, scutellum sparsely setulose, with two pairs of strong setae. Two propleural and two prostigmatal setae, the upper ones rather strong, the lower ones rather small, one or two minute hairs close to the prostigmatals. *stpl* in an equilateral triangle, which bears one or two long, erect hairs, the anterior and lower *stpl* subequal, the posterior one much stronger.

Abdomen elongate oval, rather depressed, grey dusted with a median vitta and a pair of small spots of dark brown dust on hind margins of second and

third segments, fourth segment with the median vitta subtriangularly dilated at apex; second segment with a pair of distinct lateral setae; third and fourth each with three pairs of setae in a transverse discal row, fifth with two pairs of setae and a few hairs.

Legs black, with the basal half of hind and basal two fifths of mid-femora yellow, the tibiae piceous. Front femora with rather short and fine setae, front tibiae with a fine submedian *pv*, mid-femora with about four moderate *pv* setae in basal half, one beyond middle, and two preapical setae (*p* and *pd*), mid-tibiae with a moderate *ad* and a small *pd*, the former much, the latter slightly beyond middle, hind femora with about six moderate *ad*, four erect, fine *pv* in basal half and one *pd* preapical, hind tibiae with a strong *ad* slightly beyond middle and a weak *a* just beyond the *ad*.

Wings hyaline, veins brown, r_{4+5} gradually but very distinctly converging at apex, *r-m* just beyond middle of discal cell. Calyptrae whitish-hyaline, the border yellowish-white. Halteres orange-yellow.

UGANDA: Kigezi District, Mt. Mgahinga, 10,000–11,000 ft., xi.1934 (*F.W.E.*) ♂ type.

The species, though placed near *nigrotibialis* in the key, is perhaps not very closely related to it. Unfortunately the specimen is somewhat teneral, and the interfrontalia and jowls are somewhat shrunk.

Caricea rebmanni group

There are perhaps two good species only in the material at hand: *translucida* and *rebmanni*, all the others probably being subspecies of the latter. As I have, however, seen only one specimen of *translucida*, I should not like to make the first bifurcation in the key for it, using the bare arista, short third antennal joint, and translucent base of abdomen, which characters do not occur in the other forms. Some of the specimens seen seem to be definitely intermediate between *attenuicornis* and *kilembana*, others between *kilembana* and *ciliventris*.

1(10). Front coxae yellow on anterior surface, seldom slightly infuscate; but then the hind tibiae not paler in middle.

2(7). Tibiae yellow, the mid and hind ones sometimes slightly infuscate. Femora with not more than apical third piceous (except for dorsal streak which may pass the apical third).

3(6). Mesonotum entirely dark dusted with the humeral and notopleural calli grey dusted. Parafrontalia dark dusted like interfrontalia. Fourth ventrite of male with fine black setulae and an inconspicuous fringe of short yellow pile along emargination.

4(5). Arista practically bare, third antennal joint half as long as face, blunt at apex. Hind femora entirely yellow except for a minute piceous point at articulation of tibia. First and base of second abdominal segment somewhat brownish-yellow translucent, the dark patches on the abdominal

tergites not very distinct, the whole dorsum rather shining brown. *translucida* sp. n., p. 212

5(4). Arista short-plumose except on the apical quarter and the thickened base, third antennal joint much more than half as long as face, gradually tapering and pointed in female, very long (four-fifths as long as face) and less pointed in male (Fig. 77). Hind femora with a brown shadow or a piceous patch over apical quarter. Abdomen not translucent at base. . . . . *attenuicornis* Mall., p. 214

6(3). Mesonotum grey dusted, with 3 or 5 narrow and partly disintegrated longitudinal vittae (along the *acr*, *dc* and *ia*). Parafrontalia distinctly pale dusted. Fourth ventrite of male with a conspicuous fringe of dense black setulae along, at least, basal half of emargination. *ciliventris* sp. n., p. 215

7(2). Tibiae piceous, the hind ones sometimes slightly paler in middle. Femora with at least the apical two-fifths entirely piceous or black.

8(9). Posterior femora with the basal half bright reddish-yellow. The three basal joints of the hind tarsi strongly compressed, rather stout in side view, the second and third joint each very distinctly narrower than the preceding one (Fig. 73). . . . . . *kilembana* sp. n., p. 216

9(8). Posterior femora only reddish-yellow translucent in basal third or less. The three basal joints of the hind tarsi moderately compressed, slender, of almost equal width. . . . . . . *kinangopana* sp. n., p. 218

10(1). Anterior surface of the front coxae almost entirely occupied by a piceous, dark brown dusted streak. Tibiae piceous, the hind ones largely pale yellow, with base and apex piceous. Femora with a complete blackish dorsal streak, the front ones practically entirely black, the mid and hind femora almost entirely black in male with the base somewhat reddish-yellow translucent, largely black, with the base more distinctly reddish-yellow in female. Mesonotum entirely dark dusted, including humeri and scutellum. Lower calyptra sooty-brown in male. *rebmanni* Speis. p. 220

Caricea translucida sp. n. ♂

Length 3·3 mm.; *of wings* 3·7 mm.

Head black, grey dusted on the face and lower part of occiput, dark brown dusted on the entire upper part of the occiput, frons dull black with whitish reflections when seen from in front, parafrontalia not pale dusted, only a very inconspicuous and narrow line of greyish pollinosity ascending along the inner margin of eyes outward of the frontal setae. Frons subtriangularly dilated to vertex, with straight sides, twice as wide behind as in front, almost thrice as long as wide in front, not quite half as wide in front as one eye (measures estimated); fronto-facial stripe narrowed to middle of third antennal joint, where it is not much more than a third as wide as one eye, moderately widened and rounded to lower margin of eyes, where it is as wide as at vertex; parafrontalia not clearly defined, with two moderate and one minute inclinate frontal seta. Inner vertical strong, outer one weak though distinct,

post-verticals and ocellars moderate. Antennae fuscous, the second joint with yellowish-grey dust and pale translucent interiorly at apex, third joint thrice as long as wide, reaching lower third of eyes, its apex as distant from mouth-margin as from base of arista; arista practically bare, with only a few very short hairs, the 1–2 longest ones of them as long as the basal diameter of the arista. Palpi fuscous with paler base. Parafacialia and jowls linear, eyes very large, slightly passing level of mouth-margin.

Thorax black, densely dark-brown dusted on dorsum, grey dusted on pleurae, humeri and lateral parts of mesonotum yellowish-grey dusted. *acr* fine, in two distinct rows, 1+3 very long *dc*, posterior *ia* rather small; scutellum with a few small hairs on apical half and two pairs of strong setae. The two propleurals rather small, upper prostigmatal seta rather strong, lower one fine, curved downward, not surrounded by hairs. *stpl* in an almost equilateral triangle, the posterior side of which is slightly shorter, and which bears some erect, fine hairs, anterior *stpl* rather weak, posterior *stpl* very strong, lower one rather strong.

Abdomen elongate-suboval, slightly longer than thorax, somewhat curved downward, somewhat compressed at apex, first segment, base of second, venter of the others, and the hypopygium testaceous translucent, but the fourth sternite dull black, large and strongly convex, thinly yellowish-grey dusted; lateral setae distinct, third and fourth segments with a transverse discal row of four strong setae, apex of the fourth segment with a few long and strong hairs, fifth with one pair of fine, long setae.

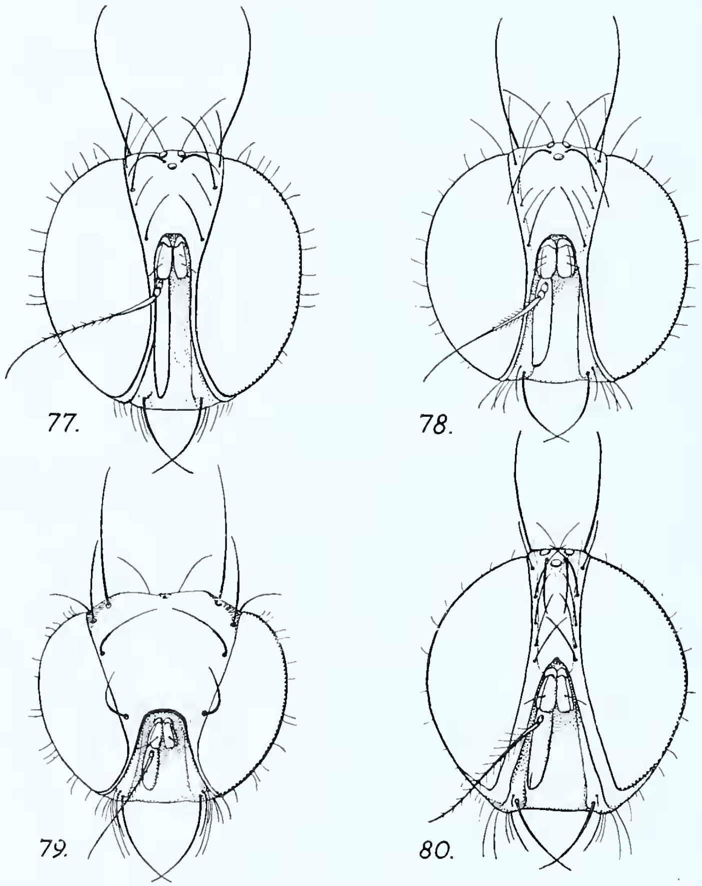
Legs slender, moderately long, testaceous, front and mid-femora with a brown streak along apical two-thirds of dorsum, hind femora with the extreme apex narrowly brown, mid-tibiae somewhat infuscated, the basal two joints of the mid-tarsi piceous, the others whitish-yellow, the basal two joints of the front and hind tarsi testaceous, the others pale yellow. Front femora with about six fine and rather short *pd* setae, five rather long and fine *pv* setae, alternating with smaller ones, *pv* seta of front tibiae more than two-thirds as long as tibia; mid-femora with 2–3 fine *ad* setae near base, four long and strong *pv*, alternating with small ones, two strong *a* setae in apical half, and two pre-apicals (*p* and *pd*), mid-tibiae with a strong *av* and a somewhat smaller *pd* seta in middle; hind femora with six *ad* setae, among them a strong one at two-thirds, a strong *av* at two-thirds, a smaller one beyond it, a moderate *pv* near base and two very long ones near middle, hind tibiae with a very long *ad* at second fifth and a rather long *a* seta very close to it, the *d* preapical at three-quarters.

Wings rather strongly infuscated, veins brown, r_{4+5} and *m* very slightly diverging at apex, *r–m* beyond middle of discal cell. Calyptrae hyaline, slightly smoky, the borders testaceous. Halteres ferruginous.

UGANDA: Ruwenzori, Kilembe, 4500 ft. (*F.W.E.*) ♂ type.

Caricea attenuicornis Mall.

UGANDA: Ruwenzori, Namwamba Valley, 6500 ft. (*F.W.E.*) 1 ♂; Bwamba Pass (West Side), 5500–7500 ft. (*F.W.E.*) 1 ♂; Aberdare Range, Thompson's Falls, 7500 ft., x.1934 (*F.W.E.*) 1 ♂.



FIGS. 77–80. Heads of *Caricea*, dorso-frontal view. 77.—*attenuicornis* Mall. 78.—*morio* sp. n. 79.—*niveifrons albisquama* ssp. n. 80.—*hyalinipennis* sp. n.

Typical locality: KENYA: S.E. edge of Kenya Forest (♀ type in B.M.).—In B.M. from UGANDA: Kampala, 1.ix.19. (*C. C. Gowdey*) 1 ♀.

According to Malloch's key (1922, Ann. Mag. nat. Hist. (9)10: 578) this species should possess a *pd* seta on the hind tibiae. This is not mentioned in the description (l.c., p. 584), nor is it present in the type. The species has thus been erroneously placed in that section of Malloch's key. The specimen from

Kampala, mentioned by Malloch (1925, Ann. Mag. nat. Hist. (9)16: 363) as *C. rebmanni*, belongs to this species. The specimens at hand are certainly conspecific though not quite identical, the males having the third antennal joint still more slender and longer and less pointed at apex (Fig. 77), and the apices of the mid and hind femora blackened, whereas the apices are only infuscate in the two females. In the specimen from Thompson's Falls the mid and hind tibiae are more strongly infuscate.

Caricea ciliventris sp. n. ♂ ♀

Length 3·2–4·2 mm.; *of wings* 3·5–4·6 mm.

♂. *Head* black, interfrontalia dull black with brown reflections when seen from in front, parafrontalia, neighbourhood of the ocelli and postverticals golden-grey dusted, occiput golden-grey dusted above with a fuscous central vitta which embraces the golden-grey spot around the ocelli like a fuscous ring, lower part of occiput grey dusted, face whitish-grey dusted. Frons straight in profile, projecting by almost the width of the antennae, shorter than face, not much longer than wide at vertex, over three-quarters as wide at anterior frontal setae as one eye, evenly and strongly dilated to vertex, fronto-facial stripe rather strongly narrowed to middle or beyond middle of third antennal joint, where it is apparently half (but actually two-thirds) as wide as one eye, strongly widened and slightly rounded to lower margins of eyes, which distinctly pass level of mouth-margin, and where the fronto-facial stripe is almost twice as wide as at lunula and a sixth wider than at vertex; parafrontalia not well defined, a third as wide as the interfrontalia at lunula, with two moderate and one weak inclinate frontal seta. Inner vertical strong, outer vertical indistinct, postverticals and ocellars strong. Antennae fuscous, second joint with greyish-brown pollinosity interiorly at apex, third joint four to almost five times as long as wide, apex somewhat pointed dorsally, reaching lower quarter of eyes, falling short of mouth-margin by half the length of the joint; arista short-haired on about basal half, two-thirds as wide, including plumosity, as third antennal joint. Palpi fuscous or brown. Parafacialia and jowls almost linear.

Thorax black, pleurae grey dusted, dorsum brownish-grey dusted with five dark brown vittae along the *acr*, *dc* and *ia*, the latter two pairs more or less disintegrated. *acr* moderately fine, in two rows and mostly paired, a few additional ones towards scutellum, 1+3 strong *dc*, two well-developed *ia*; scutellum setulose with two pairs of strong setae, the lateral ones slightly shorter. Posterior propleural and upper prostigmatal subequal, not very strong, lower prostigmatal fine, curved downward, 1–2 small hairs close to it. *stpl* in an almost equilateral triangle which bears some fine hairs, anterior and lower *stpl* subequal, not very strong, posterior one very long and strong.

Abdomen oblong, rather strongly compressed, not very densely grey dusted, the first to third segments each with a dark brown transverse band along hind margin, widening towards middle and there more or less reaching front margin, fourth with a brown median vitta which is triangularly dilated behind; second to fourth segments each with a transverse discal row of 2–3 pairs of strong setae, hind margin of fourth segment with some fine, long setae, fifth with a pair of fine, parallel setae between which a small pair is inserted, fourth ventrite with a dense fringe of fine, black setulae along at least anterior half of its lateral lobes.

Legs testaceous, coxae brownish exteriorly at base, front femora infuscated along dorsum and more or less at apex, mid and hind femora infuscated in apical third, the infuscation extending towards middle or base on dorsal surface, posterior tibiae more or less, anterior tarsi strongly infuscated, hind ones piceous. Front femora with 5–7 *ad* setae in apical three-fifths, five long *pv*, alternating with small ones, front tibiae with a very long *pv* seta at two-fifths, mid-femora with about five rather fine *a* setae in basal half, 3–4 long and fine *pv* setae from base to two-thirds, and two strong preapicals (*p* and *pd*), mid-tibiae with a moderately strong *pd* at middle and a strong *ad* somewhat beyond middle; hind femora with 7–10 strong *ad*, the last of them somewhat apart and level with the rather strong *pd* preapical, about 5–7 fine though distinct *av*, a very long and strong *pv* at a third, and two smaller ones near base and at middle, hind tibiae with a long and strong *a* and an extremely long and strong *ad* somewhat before middle, the *ad* about five-sixths as long as the tibia, the three basal joints of the hind tarsi somewhat compressed.

Wings slightly smoky, veins dark brown, R_5 very long and slender, very slightly dilated to apex, *r–m* distinctly though slightly before middle of discal cell. Calyptrae whitish-yellow with pale yellowish border, the lower one much longer and strongly projecting, broadly rounded at apex. Halteres pale ferruginous.

♀ with the third antennal joint more pointed, the abdomen pointed, the median vitta of the fourth segment not dilated behind, and the setae of the legs stronger.

UGANDA: Ruwenzori, Kyarumba, 4500 ft. (*D. R. Buxton*) ♂ type, 2 ♂ 2 ♀ paratypes; Kilembe, 4500 ft. (*F.W.E.*) 2♂ 2 ♀ paratypes; Mobuku Valley, 4500 ft. (*F.W.E.*) 1 ♀ paratype; Fort Portal, 4.xii.1934 (*F.W.E.*) 1 ♂ paratype. Bugomoba, 24.iv.1927 (*H. Hargreaves*) 1♀ paratype (returned to Mr. Hargreaves).

Caricea kilembana sp. n. ♂ ♀

Length 3·9–4·7 mm.; *of wings* 3·7–4·6 mm.

♂. *Head* black, interfrontalia black with brown reflections, parafrontalia dark brown dusted, only the extreme lateral margin narrowly golden dusted, dorsal part of occiput dark brown dusted, a large, brown-dusted spot round

the postverticals defined by a fuscous semicircle, rest of head densely grey dusted. Frons projecting at base of antennae by the width of the latter, straight in profile, much shorter than face, two-thirds as wide in front, almost as wide at vertex as one eye, not much longer than wide at vertex, fronto-facial stripe strongly narrowed to middle of third antennal joint, strongly widened from there to lower margins of eyes (which slightly pass level of mouth-margin), where it is distinctly wider than at vertex; parafrontalia with two strong and one weak inclinate frontal seta. Inner vertical strong, outer vertical rather indistinct, postverticals rather strong, ocellars strong. Antennae fuscous, third joint more than six times as long as wide, reaching lower quarter to fifth of eyes, falling short of mouth-margin by once or twice its width; arista short-haired on basal three-quarters, half as wide to almost as wide, including plumosity, as third antennal joint. Palpi fuscous. Parafacialia and jowls almost linear.

Thorax black, pleurae, humeri and lateral parts of the mesonotum densely grey dusted, mesonotum and scutellum densely dark brown dusted, with a pair of brownish-grey vittae from neck to suture which are continued along the front side of the latter. *acr* fine but rather long, in two rows with a few additional setulae behind, 1+3 very long *dc*, the first *post* pair shorter, two well-developed *ia*; scutellum sparsely and finely setulose with two pairs of strong setae, the lateral ones slightly shorter. Posterior propleural and upper prostigmatal moderately long, lower prostigmatal fine, curved downward, surrounded by a few fine hairs. *stpl* in a triangle with some long, erect hairs, among which one near the posterior side forms a fourth *stpl*, the posterior side considerably shorter, anterior and lower *stpl* subequal, not very strong, posterior one very long and strong.

Abdomen as long as thorax, oblong-oval, slightly depressed at base, distinctly compressed at apex, somewhat curved downward, black, rather dark grey dusted, dorsum of the first to third segments with a broad, dark-brown, transverse band on hind margin, which reaches more or less middle of segment at sides and front margin in middle, fourth segment with a dark inverted-triangular spot. Second to fourth segments each with a transverse discal row of 2–3 pairs of rather strong setae, fourth besides with a long marginal lateral seta, fifth with a pair of long and fine setae and a few fine, erect hairs.

Legs: front coxae pale ferruginous, mid and hind coxae piceous, grey dusted, trochanters and base of the femora pale ferruginous, apical half and dorsal surface of the anterior femora piceous, apical two-fifths and most of the dorsal surface of the hind femora piceous, tibiae and tarsi piceous-black. Front femora with 6–7 rather strong *pd* and five long *pv* setae, the latter alternating with fine ones, front tibiae with a very long and strong *pv* just beyond basal third; mid-femora with 6–8 rather strong *a* setae in basal three-fifths, four long *pv* setae, alternating with fine ones, and two preapicals (*p* and *pd*),

mid-tibiae with a moderately strong *pd* seta at middle and a subequal *ad* somewhat beyond it; hind femora with 6–8 *ad*, about six fine but rather long *av*, three long *pv*, and a *pd* preapical, hind tibiae with a very strong and long *ad* at middle and a moderately long *a* just before middle. Basal joint of hind tarsi strongly compressed and dilated, as wide as tibiae, with a rather broad, bare longitudinal area, the next two joints also compressed and dilated, but to a less degree (Fig. 73).

Wings strongly smoky and iridescent, veins dark brown, r_{4+5} and *m* slightly diverging at apex, *r–m* just beyond middle of discal cell. Calyptrae slightly smoky with pale testaceous borders, the upper one strikingly short, the lower one normal, very strongly projecting beyond the upper one, subparallel, broadly rounded at apex. Halteres testaceous.

♀: abdomen shorter-oval, pointed and not compressed, thorax with five narrow vittae, the median one complete, the subdorsal ones interrupted at suture and scutellum, but continued at lateral scutellar setae, and the sublateral ones connected in front with the subdorsal vittae and running over the *prst* and *sa* setae (the presutural part of this pattern is recognisable also in the male in posterior view, whereas the postsutural part of the pattern can seldom be traced in that sex).

UGANDA: Ruwenzori, Kilembe, 4,500 ft. (*F.W.E.*) ♂ type; 7♂ 3 ♀ paratypes.

Caricea kinangopana sp. n. ♂ ♀

Length 4·3–5·2 mm.; *of wings* 4·7–5·5 mm.

♂. *Head* black, densely grey dusted, occiput brown dusted above, frons dark brown dusted, parafacialia brownish at dorsal end. Head very high, one-and-a-quarter times as high as long, frons much shorter than face, strongly dilated to vertex, almost one-half wider at vertex than behind lunula, as long as wide, fronto-facial stripe rather strongly narrowed to beyond insertion of arista, considerably widened but hardly rounded to lower margin of eyes, where it is as wide as at vertex; parafrontalia not distinctly defined from interfrontalia, with three inclinate frontal setae. Inner vertical very long, outer vertical weak, postverticals and ocellars long and rather fine, the former strongly, the latter moderately diverging. Antennae black, dark brown dusted, inserted at dorsal third of eyes, long and slender, third joint more than four times as long as wide, somewhat pointed dorsally at apex, almost reaching lower sixth of eyes (the latter reaching or slightly passing level of mouth-margin), falling short of mouth-margin by about twice its width; arista short-haired, the longest hairs of ventral surface as long as the basal diameter of arista, the longest hairs of dorsal surface almost half as long as the third

antennal joint wide. Palpi piceous. Parafacialia hardly a third as wide as third antennal joint, jowls much narrower than the latter.

Thorax black, dorsum and scutellum dark brown dusted, scutellum slightly lighter at sides, humeri and sides of dorsum pale brown, pleurae grey dusted, mesopleurae with a large brown spot. *acr* moderately long and numerous, in two rows, the *prsc* pair distinctly longer and stronger, 1+3 strong *dc*, two moderate *ia*, the anterior one level with the *sa*; scutellum finely setulose, with the two pairs of setae very long and strong. Two strong propleurals, upper prostigmatal strong, lower one fine, downwards curved, surrounded by a few fine, small hairs. *stpl* in an almost equilateral triangle, the posterior side of which is slightly shorter, and which bears some fine, erect hairs and a stronger seta between the posterior and lower *stpl*, the anterior and lower *stpl* not very strong, posterior one very long and strong.

Abdomen oblong, rather depressed, densely grey dusted, dorsum with a broad transverse band on first to third segments which reaches hind margin all over its width and front margin in middle, a triangle at each anterior angle remaining grey, fourth segment brown at apex and on median line; second segment with well-developed lateral and smaller sublateral setae, third and fourth each with a transverse discal row of two (on the third segment three) pairs of setae.

Legs almost entirely black, front coxae and all the trochanters ferruginous, base of the mid and hind femora and of the tibiae more or less ferruginous-translucent. Front femora with about seven not very long *pd* and 4–5 very long *pv*, alternating with smaller ones, front tibiae with a long and strong *pv*; mid-femora with 5–7 strong *a* setae from base to two-thirds, five fine *av* in basal half, three very long *pv*, alternating with small ones, and two (*p* and *pd*) preapicals, mid-tibiae with a moderate *pd* slightly beyond middle and an *ad* of equal length almost at three-fifths; hind femora with five *ad* in basal half, a strong one at two-thirds and a preapical, six *av*, three long *pv*, and a *pd* preapical, hind tibiae with a long and strong *ad* which is half as long as the tibia, the *a* seta slightly shorter and very slightly more basad (by the diameter of its pore).

Wings rather strongly infuscate, especially along front margin. Veins dark brown, *m* slightly curved backward, r_{4+5} slightly sinuate before apex and distinctly slightly diverging with *m*, *r–m* distinctly beyond middle of discal cell. Calyptrae hyaline-brown with brown border and fringe, the lower one much longer, strongly projecting. Halteres pale ferruginous.

♀ similar to the male. Abdomen pointed at apex, *ad* seta of the mid-tibiae much longer than the *pd*, two-fifths as long as the tibia. Calyptrae pale brown with pale brown margin.

KENYA: Aberdare Range, Mt. Kinangop, 8000 ft., cedar forest, x.1934 (*F.W.E.*) ♂ type; 9000 ft. 2 ♀ paratypes.

Caricea rebmanni Speis.

Caricea rebmanni Speis., 1924, Beitr. Tierk., Königsb. (Widmungsschrift M. Braun): 102; Malloch, 1925, Ann. Mag. nat. Hist. (9)16: 363; Curran, 1935, Amer. Mus. Novit. 776: 10.

Coenosia fumipennis Stein, 1913, Ann. Mus. nat. Hungar. 11: 575 (non Lamb).

UGANDA: Ruwenzori, Namwamba Valley, 6500 ft. (*F.W.E.* and *E. G. Gibbins*) 18 ♂, 10 ♀; Bwamba Pass (West Side), 5500–7500 ft. (*F.W.E.*) 1 ♀.

Typical localities: TANGANYIKA: Kibosho and Kilimanjaro. Reported from BELG. CONGO: Burunga, by Curran.

Caricea morio sp. n. ♂ ♀

Length 4·2–5·6 mm.; *of wings* 4·5–5·8 mm.

♂. *Head* (Fig. 78) black, dark brown dusted, with some greenish-grey dust on lower part of occiput. Frons evenly dilated to vertex, in front two-thirds, at vertex four-fifths as wide as one eye; fronto-facial stripe narrowed to beyond base of arista, somewhat widened to lower margin of eyes, where it is almost as wide as at vertex, parafrontalia not defined from interfrontalia, with two strong and between them one moderate or 2–3 small inclinate frontal setae. Inner vertical strong, outer vertical weak, postverticals moderate, ocellars strong. Antennae inserted at dorsal third of eyes, black, microscopic pile of the third joint white, third joint five times as long as wide, dorsal apex bluntly pointed, almost reaching level of mouth-margin, eyes fully reaching the latter; arista practically bare beneath, short-pubescent above beyond the thickened part for a third of the length of arista, the longest hairs slightly longer than the thickened part wide. Palpi piceous. Parafacialia linear on lower half, jowls almost linear. Vibrissae level with mouth-margin.

Thorax black, dark brown dusted, the pleurae, especially sternopleura and hypopleura, largely greenish-grey dusted. *acr* rather strong, in two rows, with a few additional hairs behind, no stronger *prsc*, 1+3 strong *dc*, two *ia*, the anterior one fine, level with *sa*, scutellum sparsely setulose, with two pairs of strong setae. Two propleurals and prostigmatals, the upper ones rather strong, the lower ones small, no fine hairs around the prostigmatals. *stpl* in a triangle, which bears some rather long, erect hairs, and the posterior side of which is distinctly shorter, the anterior *stpl* weak, the other two very strong, especially the posterior one.

Abdomen slightly depressed, somewhat club-shaped, strongly curved downward, black, dark grey dusted with some parts more brownish, especially a triangular area or a median vitta on dorsum; the transverse row of two or three pairs of discal setae distinct on segments 2–4, fifth segment longer than usual, with two pairs of setae behind each other and some small hairs.

Legs entirely black, front femora with four very long (and some shorter) *pv*, front tibiae with the submedian *pv* and the preapical *pd* two-thirds to three-

quarters as long as the tibia, mid-femora with about nine fine and short *av* setae which do not much pass the middle, two strong *a* setae on and beyond middle, 2–3 very long *pv* and two (*p* and *pd*) preapical setae, mid-tibiae with a long *ad* and a moderate *pd* on middle, level with each other, hind femora with most of the *av* rather fine, but one strong *av* about at two-thirds, two very long and fine *pv* and one *ad* and one *pd* preapical, hind tibiae with the submedian setae slightly basad of middle, the *a* slightly basad of the *ad*, the latter three-quarters as long as the tibiae, *d* preapical at apical quarter to fifth.

Wings somewhat smoky, strongly iridescent, veins brown, r_{4+5} and *m* slightly converging towards apex, but inconspicuously sinuate at apex, *r–m* slightly beyond middle of discal cell. Calyptrae whitish with yellowish borders, the lower one slightly infuscate towards apex, upper one small, lower one moderate, but strongly projecting, widened to beyond middle and almost semi-circularly rounded at apex. Halteres black.

♀ similar to male, the abdomen fusiform, longer and more pointed, not conspicuously curved downward.

UGANDA: Kigezi District, Mt. Sabinio, 8000 ft., xi.1934 (*F.W.E.*) ♂ type, 2 ♂ paratypes; Mt. Mgahinga, 8000 ft., xi.1934 (*F.W.E.*) 3 ♂, 9 ♀ paratypes; Kanaba, 7300–7800 ft., xi.1934 (*F.W.E.*) 10 ♂, 3 ♀ paratypes.

Very closely related to the *rebmanni* group in the characters of the head and chaetotaxy. In Stein's and Malloch's keys *morio* would run to *fumisquama* Stein, but the latter is smaller (male 3–3·5 mm.), with the third antennal joint hardly acuminate and much shorter, the r_{4+5} and *m* parallel at apex, and the abdomen with a very distinct blackish-brown pattern. From *brunneifacies* Curr., with which *morio* has in common the size and the colour of the legs, halteres and face, it can be distinguished by the brown dusted and wider frons, the longer third antennal joint, the infuscate calyptrae, the smaller number of inclinate frontals, and evidently the curved abdomen.

Caricea niveifrons group

1(6). Pollinosity of frons *velvety* dark brown to black in both sexes. Arista short-haired.

2(3). Halteres black. Face velvety black. Longest hairs of the arista shorter than its basal diameter. Humeri dark brown dusted like the mesonotum. Lower calyptra distinctly reaching level of first abdominal segment, calyptrae strikingly white. Epistoma slightly produced, forming a rounded prominence in dorso-frontal view. Scutellum setulose on disc. Parafacialia, jowls, and *a* seta of mid-femora as in *argentipes*. Hind legs of male without silvery pile. . . . [*velutinifacies* sp. n.[1]]

3(2). Halteres yellow. Face silver-grey to silver-white. Longest hairs of the arista longer than its basal diameter. Humeri grey dusted, mesonotum dark brown dusted. Lower calyptra not passing hind end of thorax, calyptrae more hyaline with the border more or less yellowish.

[1] A detailed description of this Abyssinian species will be published in Ann. Mag. nat. Hist. 1940.

4(5). Epistoma slightly produced, forming a rounded prominence in dorso-frontal view (Fig. 4). Parafacialia about one-half as wide, jowls almost as wide as the third antennal joint. Scutellum setulose on disc. *a* setae of mid-femora of moderate length, not more than a quarter the length of the femur. Ventral surface of the hind legs with dense silvery pile in male. . . . . *argentipes* sp. n., p. 224

5(4). Epistoma truncate in front, not produced, forming a straight transverse line in dorso-frontal view. Parafacialia and jowls linear. Scutellum bare, except for two pairs of strong and one pair of weak setae. The most distal one of the *a* setae of the mid-femora of unusual length, one-third as long as the femur (in male). . . . *macochaeta* sp. n., p. 225

6(1). Pollinosity of frons not velvety, silver-white in male, if the halteres are yellow.

7(12). Halteres yellow.

8(9). Abdomen immaculate, depressed at base in male. Knees yellow. [**diluta* Stein]

9(8). Abdomen with a distinct pattern, subcylindrical and curved, or compressed in male. Knees not appreciably paler.

10(11). Scutellum setulose. Abdomen with a faint median vitta and paired spots, setae of the third and fourth segments very strong; abdomen of male subcylindrical and slightly curved. Thorax without a distinct pattern or with a more or less complete median vitta. Femora and tibiae greyish dusted. Third antennal joint pointed, arista short-haired at base and more than half as wide, including plumosity.
planifrons Stein, p. 227

11(10). Scutellum bare except for two pairs both of setae and of setulae. Abdomen with the first to fourth segments dark brown dusted, except for a grey-dusted lateral anterior triangle; setae hardly differing from the long and erect hair of the ventral surface; abdomen of male somewhat compressed. Thorax with five narrow brown vittae. Femora and tibiae not dusted, black and shining. . . . . *gibbinsi* sp. n., p. 227

12(7). Knob of halteres entirely dark brown or black. Scutellum bare, except for two pairs of setae and two pairs of setulae (one discal sub-apical and one lateral sub-basal) seldom with 1–2 additional setulae or (*brunneifacies*) more numerous setulae.

13(32). ♂♂.

14(17). Frons brown dusted, moderately widened to vertex. Ocellar bristles present. Dorsum of thorax dark brown dusted.

15(16). Calyptrae brown. Abdomen somewhat compressed, with a dark brown median vitta and lateral transverse bands along the hind margins, which are almost fused with the median vitta. [*fumisquama* Stein], p. 228

16(15). Calyptrae whitish. Seven to nine pairs of frontal setae. Abdomen depressed, entirely dark brown dusted except for a not very conspicuous, grey dusted, narrow triangle along lateral parts of front margins. *prst* and *post acr* well developed. . . . *multisetosa* sp. n., p. 229

17(14). Frons entirely covered by silver-white pruinosity. Ocellars absent.[1]

18(19). Third antennal joint pale yellow, silver-pollinose. Frons slightly dilated to vertex. Thorax and abdomen largely silver-greyish dusted with a

[1] The ocellar bristles are absent in all the males with silver dusted frons of this group which I have seen, whereas the postvertical setae are well developed. According to Curran the ocellars are present, however, in *brunneifacies*, which by this character, and the more numerous frontal setae would appear to be more closely related to *multisetosa* m.

patch of dark brown dust in front of scutellum. *prst* and *post acr* well developed. Apex of front coxae largely yellowish, with silver-white pruinosity. Calyptrae whitish. Abdomen depressed. *canifrons* Stein, p. 230

19(18). Third antennal joint black, though sometimes densely silver-pollinose.

20(31). Calyptrae whitish, with whitish or yellowish border and fringe.

21(28). Frons slightly dilated to vertex, much longer on median line than wide at vertex.

22(23). Face brownish or brownish-yellow pollinose. Seven to eight pairs of frontal bristles, one or two of them developed as hairs. Dorsum of thorax silver-grey pollinose, the scutellum and posterior part more cinereous. Ocellars long and fine.[1] . . . . . . [†*brunneifacies* Curr.]

23(22). Face silver-grey pollinose. Three to four pairs of frontal bristles (*praeacuta*?).

24(25). Third antennal joint and face densely silver-white pollinose. Hind femora with a complete row of long *ad*, most of which are almost or fully twice as long as the greater diameter of the femur, some of the *pv* almost two-thirds as long as the hind tibia. Front half of thorax silver-grey, posterior half and scutellum dark brown pollinose. *chaetomeros* sp. n., p. 230

25(24). Third antennal joint blackish-brown pollinose with at most some slight greyish reflections. Hind femora with shorter setae, only two to four *ad* setae being slightly longer than the greater diameter of the femur, and with only three rather long *pv* setae, of which two in the third and fourth fifths, and none more than half as long as the hind tibia (*praeacuta*?).

26(27). Thorax and abdomen dark brown pollinose, slightly greyish on sides. Abdomen somewhat depressed in basal half, somewhat compressed at apex. Parafacialia very narrow, less than half as wide as the third antennal joint. *prst* and *post acr* well developed.
praeacuta namwambae ssp. n., p. 232

27(26). Thorax and abdomen silver-grey pollinose. Abdomen slightly compressed.
[**praeacuta* Stein]

28(21). Frons strongly dilated to vertex, almost as wide above antennae as one eye, hardly longer on median line than wide at vertex (Fig. 79). Dorsum of thorax entirely or largely, dorsum of abdomen entirely silver-grey dusted.

29(30). *prst acr* absent, *post acr* very sparse and small. Dorsum of thorax and abdomen entirely silver-grey dusted. Face brownish.
niveifrons argentescens ssp. n., p. 234

30(29). *prst* and *post acr* present, long and fine. Posterior part of mesonotum (about half of the postsutural part) and the scutellum brown dusted. Face more or less grey. . . . *niveifrons albisquama* ssp. n., p. 233

31(20). Calyptrae dark brown, with brown border and fringe. Frons strongly dilated to vertex. Face, thorax, and abdomen entirely dark brown dusted and dull. Two or three pairs of *prst acr* present. *niveifrons* Stein. p. 232

32(13). ♀♀. Frons dark brown dusted. Ocellars present.

33(44). Calyptrae whitish with the border whitish or yellowish and the fringe whitish.

34(41). Frons moderately widened to vertex, at least a third longer than wide at vertex.

35(36). Six to nine pairs of frontal bristles, one or two of them hair-like. Face dark brown with slight greyish reflections.
[†*brunneifacies* Curr.] and *multisetosa* sp. n., p. 229

[1] See note p. 222.

36(35). Three to five pairs of frontal bristles. Face grey pollinose (always?).

37(38). Frons slightly widened from base of antennae to second frontal bristles, very slightly dilated from there to vertex, at most one-and-a-half times as wide at vertex as the third antennal joint is long. *canifrons* Stein, p. 230

38(37). Frons gradually widened from base of antennae to vertex, broader, almost or fully twice as wide at vertex as the third antennal joint is long, the narrowest point of the fronto-facial stripe much below middle of head. (♀ of *praeacuta* unknown.)

39(40). Frons slightly widened to vertex, one-quarter to one-third wider at vertex than at first frontal setae. . . . . *chaetomeros* sp. n., p. 230

40(39). Frons more considerably widened to vertex, one-half wider at vertex than at first frontal setae. . . . *praeacuta namwambae* ssp. n., p. 232

41(34). Frons strongly widened to vertex, hardly or at least less than a third longer on median line than wide at vertex.

42(43). *prst acr* absent. Face dark brown. . *niveifrons argentescens* ssp. n., p. 234

43(42). *prst acr* present. Face more or less greyish. *niveifrons albisquama* ssp. n., p. 233

44(33). Calyptrae brown, at least their border.

45(46). Frons strongly widened to vertex, hardly longer than wide at vertex, with four to five pairs of frontal setae. *prst* and *post acr* well developed. *niveifrons niveifrons* Stein, p. 232

46(45). Frons moderately widened to vertex, a third longer than wide, not much wider at vertex than the third antennal joint is long. Mid-tibiae with two long setae on posterior surfaces. *fumisquama* Stein?, p. 228

Caricea argentipes sp. n. ♂ ♀

Length 2·8–4·6 mm.; *of wings* 3·3–4·3 mm.

♂. *Head* (Fig. 4) black, occiput grey dusted, frons entirely velvety black, face wholly silver-white pollinose. Frons slightly projecting at base of antennae, as long as face, distinctly narrower in front than one eye, evenly and moderately dilated to vertex, fronto-facial stripe not distinctly narrowed from there to lower margin of eyes, where it is one-and-a-half times as wide as at vertex, mouth-margin at least as much projecting as frons, forming a short snout, which is conspicuously rounded anteriorly in dorsal view; parafrontalia not defined, with 2–3 strong and 3–4 fine and minute setae. Inner vertical very strong, outer one indistinct, postverticals long, ocellars not very long. Antennae fuscous, second joint with light brown pollinosity interiorly at apex, third joint not quite thrice as long as wide, acuminate at dorsal apex, reaching lower fifth or sixth of eyes, its apex almost as distant from mouth-margin as from base of arista; the latter short-haired in basal two-fifths, the longest hairs slightly longer than the basal diameter of the arista. Palpi black. Parafacialia almost half as wide, jowls almost as wide as third antennal joint.

Thorax black, pleurae grey dusted with bluish-grey reflections, dorsum including scutellum dark brown dusted, humeri and notopleurae pale grey dusted. *acr* rather long though fine, in two rows, more numerous towards

scutellum, 1+3 very long and strong *dc*, two rather strong *ia*; scutellum setulose, with two pairs of long and strong setae. Posterior propleural and upper prostigmatal moderately strong, lower prostigmatal fine, curved downward, a few small hairs close by. *stpl* in a triangle which bears some fine, long, erect hairs, and the anterior and posterior sides of which are considerably shorter than the upper side, anterior *stpl* moderately strong, lower *stpl* strong, posterior *stpl* very long and strong.

Abdomen oblong-oval, rather depressed near base, somewhat compressed at apex, black, densely grey dusted, with a brown median vitta on first to fourth segments and a pair of roundish spots on second to fourth; these segments each with a transverse discal row of 2–3 pairs of rather strong setae, fifth segment with a pair of rather long, fine setae and rather numerous small hairs.

Legs wholly black, ventral surface of hind femora silver dusted, of hind tibiae and tarsi densely beset with fine, minute, appressed silver-white hairs. Front femora with 6–8 rather strong *pd*, posterior surface with rather numerous erect setae, 7–8 rather long *pv*, alternating with small ones, front tibiae with a long and strong *pv* seta slightly beyond middle; mid-femora in basal two-thirds with five strong *a* setae which increase in length, four long *pv* in basal three-fifths, alternating with fine ones, and two strong preapicals (*p* and *pd*), mid-tibiae with a moderately strong *pd* at middle and a strong *ad* almost halfway between middle and three-fifths; hind femora with 6–7 strong *ad*, a rather irregular row of *av*, among which a strong one at a third and two-thirds, and a strong preapical, about five *pv* among which only two—one before and one behind middle—are long, and a strong *pd* preapical, hind tibiae with a very strong *pd* and a moderately strong *a* at middle.

Wings slightly smoky, veins brown, r_{4+5} and *m* parallel at apex, *r–m* slightly before or in middle of discal cell. Calyptrae not very large, the lower one projecting by about the length of the upper one, hyaline with testaceous border. Halteres pale ferruginous.

♀ not differing from male, except by the formation of the abdomen and the absence of the silvery pollinosity and hair of the hind legs.

Kenya: Aberdare Range, Nyeri Track, 10,500 ft., x.1934 (*F.W.E.*) ♂ type; Mt. Kinangop, 10,000 ft., x.1934 (*F.W.E.*) 2 ♂ 1 ♀ paratypes; Mt. Elgon, Alpine Zone, 12,000–13,000 ft., ii.1935 (*F.W.E.*) 2 ♂ paratypes (one on *Lobelia elgonensis*); Natal: Ulundi, 5000–6500 ft., ix.1896 (*G. A. K. Marshall*) 1 ♀ paratype.

Caricea macrochaeta sp. n. ♂ ♀

Length 2·8–3·5 mm.; *of wings* 3·0–3·8 mm.

♂. *Head* black, dark brown dusted, except on lower quarter of occiput, jowls, face, and parafacialia, which are grey dusted, frons black, dark velvety-

brown dusted. Frons rounded in profile, not protruding at lunula, slightly more than half as wide at lunula as one eye, gradually widened with straight sides to vertex, where it is two thirds wider than anteriorly, more than twice as long as wide at lunula, fronto-facial stripe rather strongly narrowed to middle of third antennal joint, gradually widened and rounded from there to lower margin of eyes, where it is very slightly wider than at vertex; parafrontalia not well defined, with two long inclinate frontal setae. Inner vertical strong, outer vertical almost indistinct, postverticals and ocellars fine. Antennae dull black with brown reflections, third joint thrice as long as wide, reaching lower quarter of eyes (the latter slightly passing level of mouth-margin), apex as distant from mouth-margin as from base of arista; the latter bare on apical half, short-haired on basal half, the longest hairs slightly longer than the basal diameter of arista. Palpi black. Parafacialia and jowls linear.

Thorax black, dorsum including scutellum densely dark brown dusted, humeri and notopleural depression greyish-brown, pleurae grey dusted. *acr* fine, sparse, in two rows, 1+3 long and strong *dc*, posterior *ia* well developed; scutellum with 2–3 pairs of setulose hairs and the normal two pairs of long and strong setae. Propleurals and prostigmatals fine, not very long, lower *stpl* curved downward, not surrounded by small hairs. *stpl* in a triangle which bears some erect setulose hairs and the posterior side of which is conspicuously shorter, anterior *stpl* rather fine, not very long, lower one slightly shorter than upper one, both very long and strong.

Abdomen black, grey dusted, dorsum dark brown dusted, but the anterior angles broadly greyish; rather short, not much longer than thorax, somewhat depressed at base, somewhat compressed at apex, markedly curved downward; second to fourth segments each with a transverse discal row of two pairs of setae (the second with two to three finer pairs besides) which increase in length posteriorly, fourth segment besides with a pair of fine, long marginal setae, fifth with a pair of fine setae, third and fourth sternites with a pair of long, fine, erect setae.

Legs wholly black, only slightly dusted, shining. Front femora with 4–5 *pd*, some *p* setae, and five long *pv*, partly alternating with fine ones, front tibiae with a very long (four-fifths as long as tibia) *pv* seta just beyond two-fifths; mid-femora with some small *a* setae near base, a rather long one at middle and a very long one (a third as long as femur) at three-fifths, four very long *pv*, and two preapicals (*p* and *pd*), mid-tibiae with a very long *a* and *p* seta in middle; hind femora with five rather strong *ad*, a row of fine short *av* setae in basal half and a very strong one at three-fifths, a moderate *pv* at one-fifth and two very long and strong ones at two- and three-fifths, and a *pd* preapical, hind tibiae with an extremely long *pd* (four-fifths as long as tibia) at two-fifths and a somewhat shorter *a* seta slightly before it, the *d* preapical seta very long, at the apical quarter.

Wings rather smoky, veins brown, testaceous at base, r_{4+5} and *m* parallel at apex, *r-m* at middle of discal cell. Calyptrae whitish-hyaline, slightly infuscate near margin, the border pale testaceous, upper calyptra very small and short, lower one about thrice its length, strongly projecting, subparallel, rather broadly rounded at apex. Halteres pale ferruginous.

♀ very similar to male, frons half as wide at lunula as one eye, abdomen pointed at apex, its setae strongest on third segment, the setae of the legs a trifle shorter in relation to the length of the legs, calyptrae more distinctly smoky towards margin.

UGANDA: Budongo Forest, 7.–8.ii.1935 (*F.W.E.*) ♂ type; Neagu, Busiro, 5.viii.1929 (*H. Hargreaves*) 1 ♀ paratype.

So far as the long *a* seta of the mid-femora and the parafacialia and jowls, which do not protrude at all in lateral view, are concerned, this species would fit Stein's description of *pilifemur* even better than the species thus identified by Malloch and me, but the additional *d* seta on the apical third of the front tibiae in *pilifemur*, which is mentioned in Stein's description, and which is quite exceptional in this genus, proves that Malloch's identification is correct.

Caricea planifrons Stein

KENYA: Aberdare Range, Mt. Kinangop, 8000–9000 ft., in Cedar Forest, x.1934 (*F.W.E.*) 3 ♂; Katamayo, 8000 ft., x.1934 (*F.W.E.*) 2 ♂; Nairobi, x.1934 (*F.W.E.*) 1 ♂. UGANDA: Kampala 12.xii.1934 (*F.W.E.*) 1 ♂.

Typical locality: TANGANYIKA: Arusha-Ju.

The female is unknown, and though it is remarkable that Dr. Edwards should have collected seven males without a single female, I do not think that the latter can erroneously have been referred to another species.

Caricea gibbinsi sp. n. ♂

Length 2·9 mm.; *of wings* 3·2 mm.

Head black, densely grey dusted, frons, face and jowls silver-grey dusted. Frons subparallel, almost as wide as one eye, slightly shorter than face, fronto-facial stripe very slightly narrowed from second inclinate frontal to apex of second antennal joint, rather strongly dilated and slightly rounded to lower margin of eyes, where it is almost one half wider than at frons; parafrontalia not defined from interfrontalia, with three inclinate frontal setae. Inner vertical strong, outer vertical indistinct, postverticals and ocellars moderately long. Antennae fuscous, second joint silver-white dusted interiorly at apex, third silver-grey dusted along interior surface of dorsal margin, almost thrice as long as wide, apex rounded, reaching lower quarter of eyes (the latter not quite reaching mouth-margin) distant from mouth-margin by not quite the length

of the third joint; arista bare in apical three-fifths, short-haired in basal two-fifths, the longest hairs slightly longer than the basal diameter of arista. Palpi black. Parafacials more than half as wide as, jowls slightly wider than third antennal joint.

Thorax black, densely grey dusted, with five narrow brown vittae, which do not much pass the *prst dc* in front and broaden and coalesce towards scutellum, disc of scutellum brown. *acr* rather strong, in two rows, 1+3 strong *dc*, two strong *ia*; scutellum with two pairs (a lateral sub-basal and a discal sub-apical one) of setulose hairs and two pairs of setae. The two propleural setae rather fine, upper prostigmatal moderate, lower one fine, curved downward. *stpl* in a triangle, the posterior side of which is shorter and which bears several erect fine hairs, anterior *stpl* weak, lower one rather strong, posterior one very strong.

Abdomen rather short, hardly depressed at base, considerably compressed at apex, black, densely grey dusted, first to fourth segments each with a transverse band of dark brown dust along hind margin, which reaches front margin in middle; hairs appressed on dorsum, erect at sides and venter, the setae not distinguishable, fifth segment with a pair of rather long, fine setae.

Legs entirely black, coxae dusted, rest glossy. Front femora with four not very strong *pd* in apical two-thirds, six *pv* which decrease in size and alternate with weaker ones, front tibiae with a long *pv* which is half as long as tibia; mid-femora with five *a* setae in basal two-thirds, six fine, rather short *av* in basal half, four *pv*, alternating with weak ones, and two (*pd* and *p*) preapicals, mid-tibiae with a rather strong *ad* at three-fifths and a weaker *pd* slightly beyond middle; hind femora with six rather strong *ad*, six fine and short *av* in basal two-thirds and a preapical one, 3–4 *pv*, the last but one strong, at two-fifths, and a *pd* preapical, hind tibiae with a strong *ad* at middle, which is half as long as tibia, and a slightly shorter *a* seta at practically the same level.

Wings hyaline, hardly smoky, strongly iridescent, veins brown with slightly paler base, r_{4+5} and *m* almost parallel, very slightly converging at apex, *r-m* distinctly beyond middle. Calyptrae hyaline with pale yellow border, the lower one strongly projecting and broadly rounded at apex. Halteres pale reddish-brown.

UGANDA: Ruwenzori, Namwamba Valley, 6500 ft. (*E. G. Gibbins*) ♂ type, 1 paratype, (♂?, abdomen lost).

Caricea fumisquama Stein

UGANDA: Ruwenzori, Namwamba Valley, 10,100 ft. (*T. H. E. Jackson*), 2 ♀; Mobuku Valley, 4500 ft. (*F.W.E.*) 1 ♀.

Typical locality: ABYSSINIA: Marako. In B.M. from UGANDA: Segibwa Falls, attracted by human faeces, 29.iii.1935 (*E. G. Gibbins*).

As no male of this species is available, the identification is somewhat uncertain; in these females the abdomen is wholly dark brown dusted on dorsum, whereas the males described by Stein have a black median vitta and transverse hind marginal bands. The females at hand show an outstanding character which is unique, as far as I am aware, in *Caricea*: the mid-tibiae have, instead of one, two long posterior setae, a *pv* slightly beyond two-fifths and a *pd* (or perhaps rather *p*) at two-thirds, whereas the *ad* (or perhaps rather *a*) seta is inserted at middle.

Caricea multisetosa sp. n. ♂ ♀

Length 2·9–3·4 mm.; *of wings* 2·9–3·6 mm.

♂. *Head* black, wholly dark brown dusted, only the lower half of the occiput grey dusted. Frons longer than face, almost two-thirds as wide in front as one eye, with straight sides, gradually and evenly dilated to vertex, where it is almost twice as wide as in front, almost a third longer than wide at vertex; fronto-facial stripe very slightly narrowed to apex of second antennal joint, gradually widened and moderately rounded to lower margin of eyes, where it is as wide as at vertex; parafrontalia not defined, with 5–7 inclinate frontal setae, the reclinate seta not very distinct from the inclinate ones, often a hair-like seta between the reclinate and inner vertical setae. Inner vertical strong, outer one weak though distinct, postverticals moderately strong, ocellars very long. Antennae fuscous, brown dusted, third joint two-and-a-half times as long as wide, reaching lower quarter of eyes (the latter just passing level of mouth-margin), apex as distant from mouth-margin as from base of arista, the latter bare on almost apical three-fifths, very short-haired in basal part, the longest hairs hardly longer than the basal diameter of arista. Palpi fuscous. Parafacialia linear, jowls half as wide as third antennal joint.

Thorax black, densely dark brown dusted, pleurae more greyish dusted. *acr* sparse, one or two pairs in front of suture, a few more in two irregular rows on anterior half of postsutural part and some widely scattered ones in posterior half, 1+3 strong *dc*, two rather strong *ia*; scutellum with two pairs of fine hairs and two pairs of strong setae. Anterior propleural not much shorter though much finer than posterior one, the latter moderately strong, lower prostigmatal rather long, curved downward, upper one moderately strong, with or without a small adjacent hair. *stpl* in an almost equilateral triangle, which bears some long, erect hairs, one of them forming a fourth *stpl* between the posterior and lower ones, anterior *stpl* rather weak, lower one slightly longer, posterior one very long and strong.

Abdomen oblong-oval, rather depressed, with the apex slightly compressed on ventral surface, black, dorsum dark brown dusted, with an inconspicuous greyish triangle in each anterior corner of the segments, ventral surface grey

dusted; first segment with a shorter fan of erect hairs behind the normal one, second and third segments also with some hairs at sides, second to fourth segments each with a transverse discal row of 2–3 pairs of setae, these rows closer to hind than to front margins, particularly so on the fourth segment, fifth with two pairs of fine setae.

Legs wholly black, shining, hardly dusted except on coxae which are brown dusted. Front femora with 5–6 *pd* setae, several *p* rows of more than twelve strong setulose hairs, and seven *pv* setae, alternating with smaller ones, front tibiae with a long *pv* slightly beyond middle; mid-femora with about eight small *a* in basal half, three rather long *pv* setae in basal three-fifths, and two preapicals (*p* and *pd*); hind femora with 7–9 strong *ad* setae, a not very strong *av* seta at two-thirds and an *av* preapical, a long *pv* seta at two-fifths, and a *pd* preapical, hind tibiae with a long *pd* slightly beyond two-fifths and a long and fine *a* seta close and very slightly basad to it.

Wings strongly infuscate, with the veins dark brown, r_{4+5} and *m* almost parallel at apex, *r-m* slightly beyond middle of discal cell. Calyptrae whitish with yellowish-white border, lower one strongly projecting, broadly rounded at apex. Halteres dark brown.

♀ similar to male, the abdomen pointed, the setae somewhat stronger.

UGANDA: Kigezi District, Mt. Sabinio, 7000 ft. (*F.W.E.*) ♂ type, 1 ♀ paratype; 8000 ft., 1 ♂ paratype; Mt. Mgahinga, 8000 ft., 20.xi.1934 (*F.W.E.*) 1 ♀ paratype.

Caricea canifrons Stein

UGANDA: Ruwenzori, Fort Portal, 4.xii.1934 (*F.W.E.*) 1 ♂; Kilembe, 4500 ft. (*F.W.E.*) 1 ♀. Typical locality: TANGANYIKA: Arusha-Ju.

The female is undescribed. Like all the females in this group it differs from the male by the brown dusted frons and the presence of well-developed ocellar setae. The third antennal joint is fuscous, and the thorax and abdomen are largely dark brown dusted, as in the females of *niveifrons albisquama* and *argentescens*. As in the male, the frons is not very narrow in front (approximately as wide as the third antennal joint is long) and is only very slightly dilated to vertex, where it is about one-and-a-half times as wide as that joint is long. Two fine inclinate frontal setae and one small hair.

Caricea chaetomeros sp. n. ♂ ♀

Length 2·8–3·5 mm.; *of wings* 2·8–3·4 mm.

♂. *Head* black, grey dusted, fronto-facial stripe densely silver-white dusted. Frons protruding by almost width of antennae, plane, straight in lateral view, somewhat concave on disc, only slightly narrower in front than one eye, with straight sides, a third wider at vertex than in front, much longer than face,

fronto-facial stripe slightly narrowed to apex of second antennal joint, rather strongly dilated with almost straight sides to lower margin of eyes, where it is at least as wide as at vertex; parafrontalia not differentiated, with two long and fine inclinate frontal setae. Inner vertical strong, outer one minute, postverticals rather fine, ocellars absent (ocelli very small, not prominent). Antennae fuscous, entirely densely silver-white dusted, the second joint somewhat pale translucent towards apex, third joint two-and-a-half times as long as wide, reaching lowest fifth of eyes (the latter reaching level of mouth-margin), apex as distant from mouth-margin as from base of arista; the latter bare on apical three-fifths, very short-haired near base, the longest hairs hardly longer than basal diameter of arista. Palpi black. Parafacialia half as wide, jowls slightly more than half as wide as third antennal joint.

Thorax black, not very densely pale grey dusted, postsutural part, except for front margin and anterior half of sides, and scutellum dark brown dusted. *acr* sparse, in two rows, at most single setulae outside these rows, 1 + 3 strong *dc*, two rather strong *ia*; scutellum with two pairs of setulose hairs (and sometimes an odd one) and two pairs of strong setae, the lateral ones slightly shorter than the apical pair. Anterior propleural not much shorter than the posterior one, lower prostigmatal not much shorter than the upper one, curved downward, one or two rather long, up-curved hairs close to the upper prostigmatal. Anterior and lower *stpl* more or less indistinct among the numerous, long, strong, erect hairs, the posterior one long and rather strong, the additional one between the posterior and lower *stpl* long and rather strong.

Abdomen very short, as broad as long, roundish-subtriangular, somewhat shorter and broader than thorax, strongly depressed, black, thinly blackish-brown dusted, rather glossy; hairs rather appressed on dorsum, erect at sides, the setae fine and not very distinct, one stronger marginal seta at sides of second to fourth segments, hind margin of fourth segment with a row of stronger hairs, fifth segment with rather numerous, erect, setulose hairs.

Legs entirely black except for the trochanters, which are ferruginous. Front femora with 6–10 *pd* setae, 2–3 rather long *p* near base, and fine ones up to apex, *p* surface besides densely fine-haired, and 7–9 very long and fine *pv* which alternate with somewhat shorter ones, front tibiae with a very long and fine *pv* seta; mid-femora with 7–9 *a* setae in basal two-thirds, 8–10 fine and rather long *av* in basal two-thirds, six long and fine *pv*, alternating with fine ones, four very long and rather strong *p* setae in basal two-thirds, and two strong preapicals (*p* and *pd*), mid-tibiae with a very long and fine *pd* slightly beyond middle and a shorter, fine *ad* almost at three-fifths; hind femora with 10–12 long *ad*, about eight long and fine *av* in basal two-thirds, three very long, and two or more slightly shorter *pv* in basal four-fifths, and a *pd* preapical, hind tibiae with a very long and rather strong *ad* somewhat before middle and a finer *a* close to it and very slightly basad.

Wings strongly infuscate, with the veins dark brown, r_{4+5} and m parallel or very slightly converging, *r-m* at middle of discal cell. Calyptrae whitish with whitish border, lower one strongly projecting, twice as long as upper one, broadly rounded at apex. Halteres blackish.

♀ uniformly dark brown dusted except for face, parafacialia and apex of second antennal joint which are silver-white dusted, anterior declivity of thorax which is greyish dusted with a median extension of the brown dust to neck, and lower parts of pleurae which are more or less greyish dusted. Frons not concave, with two strong and 1–2 fine frontal setae, postverticals stronger, ocellars well developed though not very strong, ocelli well developed. Abdomen pointed but very little longer than in male, third segment with a distinct though fine discal lateral, fourth with a discal row of two pairs of rather fine setae. The *av* of the mid and hind femora short as usual, the long *p* of the mid-femora absent, the *pv* of the hind femora stronger, only two of them very long, and a smaller one before and beyond them.

S. RHODESIA: Umtali District, Vumba Mts., iii.1938 (*Alex. Cuthbertson*) ♂ type, 1 ♀ paratype; iii.1935, 1 ♀ paratype; UGANDA: Lake Nabugabo, 13.xi.1934 (*F.W.E.*) 1 ♂ paratype.

This species had formerly been identified as *praeacuta* Stein and was mentioned under that name by Cuthbertson (1938, Trans. Rhodesia Sc. Assoc. 36: 119) as preying on *Simulium lepidum* De Meill.

Caricea praeacuta namwambae ssp. n.

These specimens run in Stein's key to *praeacuta* Stein which was described from Diredaua. They fit the description well, but the thorax and abdomen are largely dark brown dusted, only the sides and anterior end grey (but not silver-grey) dusted. The frons is two-thirds to three-quarters as wide anteriorly as the eye. The arista is short-haired on basal two-fifths, the longest hairs being a third as long as the third antennal joint is wide (the arista is said to be bare in *praeacuta*, but this is also said of *niveifrons*, where the arista is similarly haired), the abdomen is somewhat depressed in basal half, somewhat compressed at apex in the male.

UGANDA: Ruwenzori, Namwamba Valley, 6500 ft. (*F.W.E.*) ♂ type, 1 ♂ (without head and abdomen) 2 ♀ paratypes; Kyarumba, 4500 ft. (*D. R. Buxton*) 1 ♀ (teneral); Bwamba Pass (West Side), 5500–7500 ft. (*F.W.E.*) 1 ♀ paratype.

Caricea niveifrons Stein

UGANDA: Ruwenzori, Fort Portal, 4.xii.1934 (*F.W.E.*) 1 ♂; Kilembe, 4500 ft. (*F.W.E.*) 1 ♂.

Typical locality: TANGANYIKA: Kilimanjaro. Seen from KENYA: Naivasha,

vii.1937 (*H. J. A. Turner*, Coryndon Memorial Museum) and Chyulu Hills, 5600 ft., v.–vii.1938 (*Exped. Chyulu Hills*, Coryndon Memorial Museum).

Caricea niveifrons albisquama ssp. n. ♂ ♀

In Stein's key this form would point to *niveifrons* by its broad frons, but to *praecuta* by the white calyptrae, whereas in Malloch's key it would run down to *praeacuta*. It is certainly only a form of *niveifrons*, which must necessarily be named owing to the striking difference in the colour of the calyptrae which are dark brown in *niveifrons* and white in the present form, and to the fact that the two forms evidently are mutually exclusive. The face is more or less grey in both sexes, whereas it is brown in *niveifrons*, and the *prst acr* are well developed as in that form. The broad frons (Fig. 79) precludes its being united with *praeacuta*. The thorax and abdomen are silver-grey dusted with silky gloss in male, with the posterior half or third of the postsutural part of mesonotum and the entire scutellum dark brown dusted, whereas the thorax and abdomen are wholly dark brown dusted in *niveifrons*. In the female the frons is brown dusted with the anterior part often more or less greyish, the pleurae, humeri and anterior declivity of the thorax are also more or less greyish dusted, as are the sides and anterior angles of the abdominal segments, but this greyish dust is never very conspicuous.

KENYA: Aberdare Range, Mt. Kinangop, 8000–10,000 ft., x.–1.xi.1934 (*F.W.E.* and *J. Ford*) ♂ type, 27 ♂ 28 ♀ paratypes (8 ♂ 3 ♀ in Cedar Forest); Nyeri Track, 10,500 ft., 28.x.1934 (*F.W.E.*) 1 ♂ paratype. UGANDA: Mt. Elgon, Bulambuli, 9500 ft., viii.1934 (*J. Ford*) 1 ♂ paratype. KENYA: Mt. Elgon, Heath Zone, 10,500–11,500 ft., ii.1935 (*F.W.E.*) 4 ♂ paratypes; 11,500 ft. on *Artemisia* flowers, 1 ♀ paratype.

The males from Mt. Elgon are quite typical, and so is the female mentioned above. There are, however, two females from UGANDA: Mt. Elgon, between Butandiga and Bulambuli, 8000 ft., 7.viii.1934 (*J. Ford*), and KENYA: Mt. Elgon, Heath Zone, 10,500–11,500 ft., ii.1935 (*F.W.E.*), in which the face is brown and the *prst acr* absent, so one would be inclined to regard them as ssp. *argentescens*. On the other hand, two male specimens from Nairobi, x.1934 (*F.W.E.*) have the face brown and the *prst acr* absent like ssp. *argentescens*, but the scutellum and posterior part of mesonotum brown like ssp. *albisquama*. A female from Nairobi, iii.1935 (*Van Someren*, Coryndon Memorial Museum), shows the same characters as all these specimens, except of course for the bicoloured thorax of the males. Judging from the characters of the males I regard these specimens as transitions between the two subspecies. This transition is also found on the Aberdares, though very much rarer than the typical ssp. *albisquama*: Mt. Kinangop, 8000 ft. (*J. Ford*) 1 ♂ 1 ♀, 9000 ft., in Cedar Forest (*F.W.E.*) 1 ♀.

Caricea niveifrons argentescens ssp. n. ♂ ♀

Distinct from *niveifrons* by the white calyptrae and absence of *prst acr* in both sexes and by the silver-grey, silky pollinosity of thorax and abdomen in the male, and distinguished from ssp. *albisquama* by the absence of brown dust on the hind part of the mesonotum and scutellum in the male (though this is present on the apex of the scutellum in one or two specimens), and by the dark brown dusted face and the absence of *prst acr*.

UGANDA: Ruwenzori, Namwamba Valley, 6500 ft. (*F.W.E.*) ♂ type, 5 ♂ 4 ♀ paratypes; Mobuku Valley, 7300 ft. (*F.W.E.*) 4 ♂ paratypes; Nkokonjoro, 23.–27.xii.1926 (*G. L. R. Hancock*) 1 ♀. KENYA: Londiani, v.1936 (*H. J. A. Turner*).

The females from Londiani and Nkokonjoro, as no males from these localities are available, might equally well belong to the transitional form mentioned under ssp. *albisquama*.

Caricea semifumosa group

1(4). Halteres with the knob black or dark brown. Frons subparallel, almost inappreciably widened to vertex, about half as wide in front as one eye.[1] Thorax and abdomen conspicuously dusted. 2–4 mm.

2(3). Coxae, trochanters, and antennae entirely black in both sexes. Setae of femora and tibiae rather short. . . . . [**nodosa* Stein]

3(2). Front and mid-legs with the apex of coxae and the trochanters yellow to whitish in both sexes, the rest of the anterior coxae and the third antennal joint whitish in male. Parafrontalia linear though quite distinct; parafacialia linear, jowls hardly as wide as the third antennal joint. Longest hairs of arista less than one-half as long as the third antennal joint wide. Scutellum with only two pairs of hairs besides the setae. *albicoxa* Stein, p. 237

4(1). Halteres with the knob yellow.

5(6). Hind tibiae with three preapical setae (an antero-subdorsal one between the *ad* and *d* preapicals). Fronto-facial stripe narrowed from mouth to just beyond base of antennae, then subparallel and slightly widening to vertex, parafacialia at least two-thirds as wide as third antennal joint. Longest hairs of arista one-and-a-half times as long as the third antennal joint wide.[2] Pattern of thorax and abdomen very faint (small paired spots on abdomen and one or three narrow vittae on thorax). ♂: Basal third of wings whitish, apical two-thirds brownish; inner half of each lobe of the fourth ventrite black and shining, somewhat rugose, outer half opaque bluish-grey dusted. . . [*semialba* Mall.[3]]

[1] "*Coenosia*" *nitidiventris* Stein from Madagascar would probably run to this paragraph. The frons, however, is hardly more than a third as wide as one eye, and thorax and abdomen are shining black in the species, evidently without any appreciable pruinosity. The halteres "seem to be black" (ex Stein).

[2] Arista short-plumose, the longest hairs not quite as long as the third antennal joint wide. Wings hyaline in both sexes. Tibiae infuscate, but the ground-colour, at least of the front and mid-tibiae, reddish-yellow: *inanis* Stein, see *humilis* group.

[3] Two of the typical specimens from Ulundi are males, the other two females. The female from Willow Grange is not now in the B.M. under *semialba*.

6(5). Hind tibiae with two preapical setae (an *ad* and a *d* one).

7(10). Fronto-facial stripe very distinctly narrowed from base of antennae to about middle of frons, the latter relatively very narrow in middle (Fig. 80). Parafacialia rather wide, at least half as wide as the third antennal joint. Arista plumose in basal half, the longest hairs as long as the third antennal joint wide.

8(9). Last section but one of *m* four-fifths or at least three-quarters as long as the last section. ♂: wings whitish in basal half, rather abruptly brown in apical half, though with vague border; thorax grey dusted without or with a triangular spot of brown dust in front of and on base of scutellum; abdomen with a not very conspicuous transverse dark patch on each segment, somewhat longer than thorax, strongly compressed. ♀: wings hyaline, dorsum of thorax with traces of three or five disintegrated longitudinal vittae, abdomen with a median vitta and a pair of brown, more or less separated spots at least on some of the segments. . . . . [*semifumosa* Stein]

9(8). Last section but one of *m* two-fifths (♂) to about one-half as long as the last section. ♂: wings hyaline throughout, thorax and abdomen, except the apex of the latter, entirely dark brown dusted on dorsum, darker brownish-grey on sides than in *semifumosa*, abdomen distinctly shorter than thorax. ♀ as in *semifumosa*, the pruinosity slightly darker and more brownish. . . . . . . *hyalinipennis* sp. n., p. 237

10(7). Fronto-facial stripe not narrowed from base of antennae to middle of frons (seldom very slightly narrowed from base of antennae to first inclinate frontal setae), frons never narrowest in middle.[1]

11(16). Ocellar bristles short, about one-third as long as the frons from the end of the lunula to the postvertical setae. Abdomen of male strongly depressed up to apex (*nestor*?). Parafacialia narrow, not quite half as wide as third antennal joint. 1·8–3·2.mm

12(15). Arista not quite as wide, including pubescence, as the third antennal joint. Front tibiae with a small *ad* and well developed *d* and *pd* preapicals, no additional *d* seta present basad of the *d*, thus with only 2–3 fairly conspicuous setae in the apical dorsal part. Abdomen with extended dark transverse bands,[2] which occupy almost the whole of the dorsum of the second and third segments of male, except for a small anterior lateral triangle of grey dust; in the female these triangles are larger.

13(14). Disc of scutellum setulose. Arista almost as wide, including pubescence, as the third antennal joint. Frons almost as wide as one eye. Fourth abdominal segment largely dark dusted on dorsum, similar to the other segments. Tibiae entirely black or piceous. Fourth ventrite of male larger, fully as long as the second and third ventrites together, grey dusted. . . . . [*nestor* Curr.]

14(13). Disc of scutellum bare, except for two pairs of setulae and two pairs of setae. Arista not much more than half as wide, including pubescence, as the third antennal joint. Frons two-thirds to three-quarters as wide as one eye. Fourth abdominal segment grey dusted, with a narrow,

[1] *Coenosia fallax* Stein from Abyssinia seems to lie near *nestor*, but is distinguished by the pattern of the abdomen: a faint median vitta and indistinct paired spots.

[2] If the mid-tibiae are almost entirely yellow and the hind tibiae of male beset with some long, fine, erect hairs on ventral surface, see *trichocnema* Stein (*humilis* group), p. 177.

incomplete, brown median vitta. Tibiae yellowish at base. Fourth ventrite of male small, slightly longer than the third ventrite, black and glossy. . . . . *fascigera* Stein, p. 238

15(12). Arista plumose in basal half, the longest hairs as long as the third antennal joint is wide. Front tibiae with the *ad* preapical seta strong and a distinct additional *d* seta on the apical third, thus with four very conspicuous setae on the apical dorsal part. Disc of scutellum setulose. Tibiae entirely black. Abdomen of both sexes largely shining black, with brownish dust and narrow bands of grey dust along lateral parts of front margins. Fourth ventrite of male small, black and glossy. [*pilifemur* Stein]

16(11). Ocellar bristles strong, about one-half as long as frons, or longer. Abdomen of male compressed at least at apex. 2·6–5 mm.

17(18). Arista short-pubescent near base, the longest hairs hardly longer than the basal diameter. Frons slightly dilated to vertex (almost as in the preceding group, but the parafrontalia narrowly pale dusted). Lower calyptra in female two-and-a-half, in male five to six times as long as upper one and (♂) more than twice as wide behind middle as the upper one, reaching third abdominal segment; considerably widened from base to middle in both sexes. . . . . . [*megalocalyptra*[1] sp. n.]

18(17). Arista short-plumose, as wide as or wider, including pubescence, than third antennal joint. Frons less dilated, the parafrontalia more broadly pale dusted. Lower calyptra at most twice as long as upper one, sides subparallel in basal half in both sexes.

19(22). Frons at most three-quarters as wide as one eye. Fourth ventrite of male entirely dull dusted, or the inner part shining black, in the latter case, however, the parafacialia narrow. Apex of R_5 slightly wider than middle, its section of the costa about four-fifths as long as that of R_3.

20(21). Hind femora with the normal, single *pd* preapical. Anterior *stpl* weaker than the lower one. Parafacialia much less than half as wide as the third antennal joint, jowls narrower than third antennal joint. Inner margin of eyes broadly and evenly rounded in front view. Abdominal spots not transverse, not fusing with the median vitta. Fourth abdominal segment of male moderately compressed, not very high, abdomen oblong in side view, lobes of fourth ventrite black and shining on interior part. . . . . *tripunctiventris* Mall., p. 239

21(20). Hind femora with a second *pd* seta somewhat basad of the normal *pd* preapical. Anterior *stpl* considerably stronger than the lower one, not much weaker than the posterior one. Parafacialia half as wide as the third antennal joint or wider. Inner margins of eye practically straight above and below lunula, thus with a rounded obtuse angle. Abdominal spots transverse, often fusing with median vitta. ♂: abdomen strongly compressed, fourth ventrite entirely grey dusted. *hargreavesi* sp. n., p. 239

22(19). Frons at least as wide as one eye. Parafacialia hardly narrower than the third antennal joint. Abdomen with three longitudinal spots on segments 2–4, the median one much narrower. Inner part of fourth ventrite of male shining black. Apex of R_5 at most as wide as middle of this cell, its section of the costa about one-half as long as that of R_3. *tertriguttata* sp. n., p. 241

[1] The detailed description of this Abyssinian species will be published in Ann. Mag. nat. Hist. 1940.

Caricea albicoxa Stein

UGANDA: Ruwenzori, Mobuku Valley, 4500. ft. (*F.W.E.*) 1 ♂; Kilembe 4500 ft. (*F.W.E.*) 1 ♂ 1 ♀; Kyarumba, 4500 ft. (*D. R. Buxton*) 2 ♀.

Typical locality: TANGANYIKA: Mujenje. Seen from UGANDA: Burunga, 20.v.1926 (*G. L. R. Hancock*).

Caricea hyalinipennis sp. n. ♂ ♀

Length 2·7–4·8 mm.; *of wings* 3·1–4·6 mm.

♂. *Head* (Fig. 80) black, dorsal part of occiput slightly concave, thinly brown dusted, lower part grey dusted, temples, jowls, face, and parafacialia densely pale grey dusted, interfrontalia dull black with brown reflections when seen from in front, parafrontalia light brown dusted. Frons rounded, hardly protruding in profile, at most one-half as wide at narrowest point as one eye (measured, but appearing much narrower), distinctly widening to vertex and to anterior end, sides somewhat concave, more than twice as long as wide, fronto-facial stripe evenly widened with straight sides to lower margin of eyes, twice as wide at base of arista, two-and-a-half times at lower margin of eyes, as frons at narrowest point; parafrontalia very narrow, a third as wide as interfrontalia, with about four (3–5) rather small inclinate setae. Inner vertical not very strong, outer vertical indistinct, postverticals and ocellars small and fine. Antennae fuscous, second joint interiorly, third entirely brownish dusted, the latter almost thrice as long as wide, not quite reaching lower margin of eyes (the latter not quite reaching level of mouth-margin), falling short of mouth-margin by its width, arista plumose, the longest hairs as long as the third antennal joint wide, hairs short on apical half. Palpi fuscous. Parafacialia half as wide, jowls not quite to fully as wide as the third antennal joint.

Thorax black, pleurae grey dusted, dorsum dark brown dusted. *acr* fine and small, in two rows before suture, in about four behind suture, 1+3 strong *dc*, posterior *ia* well developed; scutellum setulose, with two pairs of strong setae, the lateral pair distinctly shorter. Posterior propleural and upper prostigmatal moderately long and rather fine, lower prostigmatal fine, curved downward, surrounded by a few small hairs. *stpl* in an equilateral triangle which bears a few erect hairs, lower *stpl* fine, anterior one moderately strong, posterior one very strong.

Abdomen distinctly shorter than thorax, slightly depressed at base, strongly compressed at apex, dorsum dark brown dusted, somewhat glossy, apex, more or less narrowly, and venter grey dusted; second segment with a lateral seta, third and fourth segments each with a transverse row of 2–3 pairs of setae, fifth with a pair of short and fine setae.

Legs wholly black, the base of the tibiae sometimes narrowly brownish or

yellowish. Front femora with 6–7 rather short *pd* and *pv* setae, the latter fine and alternating with smaller ones, setae of the *p* row very small, front tibiae with a rather long and fine *pv* seta between one-half and three-fifths; mid-femora with 4–6 short *a* setae in basal half, 3–4 rather short, fine *pv* in basal half, and two rather weak preapicals (*p* and *pd*), mid-tibiae with a moderate *ad* at three-fifths, and a weak *pd* somewhat beyond middle, hind femora with 6–7 moderately strong *ad*, a rather fine *av* at one and at two-thirds, a rather strong *pv* at two-fifths, a few small ones near base and beyond it, and a weak *pd* preapical, hind tibiae with a rather strong *ad* slightly beyond middle and a rather weak *a* very close to it, at the same level.

Wings hyaline, veins brown at apex, testaceous towards base, r_{4+5} and *m* parallel to slightly diverging at apex, *r-m* at two-fifths to two-thirds of discal cell, the last section but one of *m* (between *r-m* and *m-m*) two-fifths to slightly more than half the length of the last section. Calyptrae hyaline, very slightly smoky, the borders brown, lower one strongly projecting, about twice as long as upper one, apex broadly rounded. Halteres ferruginous, the knob often infuscated on disc.

♀. Parafacialia sometimes considerably more than half as wide as third antennal joint, pollinosity of thorax paler greyish-brown to grey, with five indistinct or distinct vittae: along the *acr*, *dc* and along the *prst* to inward of the *ia*, this pattern very variable, the median vitta sometimes abbreviated and furcate behind suture. Abdomen with a complete or incomplete median vitta and a pair of rather large, roundish, fuscous spots on first two segments and of smaller ones on the third and sometimes fourth segments, these spots often more or less fused with median vitta; abdomen more depressed, not compressed at apex, but pointed. The *p* row of setae on the front femora often quite distinct. Border of calyptrae testaceous. Halteres ferruginous, the disc of the knob much less or not at all infuscated.

UGANDA: Ruwenzori, Fort Portal, 4.xii.1934 (*F.W.E.*) ♂ type, 1 ♂ paratype; Kyarumba, 4500 ft. (*D. R. Buxton*) 1 ♀ paratype; Kilembe, 4500 ft. (*F.W.E.*) 1 ♀ paratype; Birunga 20.v.1926 (*G. L. R. Hancock*) 1 ♂ paratype; Kampala, 11.xi.1926 (*G. L. R. Hancock*) 1 ♀ paratype. KENYA: Chyulu Hills, 3500–5600 ft., iv.–v. and vii.1938 (*Coryndon Museum Exped.*) 2 ♂ 10 ♀ paratypes (in B.M. and Coryndon Memorial Mus.). S. RHODESIA: Salisbury, 14.vi.1937 (*Alex. Cuthbertson*) 1 ♂ 4 ♀ paratypes; 19.iii.1939, 3 ♀ paratypes (partly returned to Mr. Cuthbertson).

Caricea fascigera Stein

UGANDA: Kigezi District, Mt. Muhavura, 7000 ft., 29.ix.1934 (*F.W.E.*) 2 ♂ 1 ♀; Mabungo Camp, 6000 ft., xi.1934 (*J. Ford*) 5 ♂ 14 ♀; Mabungo, 6000 ft. (*J. Ford*) 1 ♂ 3 ♀. Ruwenzori, Kilembe, 4500 ft. (*F.W.E.*) 3 ♀; Mt.

Elgon, Butandiga, 7000 ft., 5.viii.1934, sweeping short grass (*J. Ford*) 1 ♀; between Butandiga and Bulambuli, 8000 ft., 7.viii.1934 (*J. Ford*) 3 ♀.

Typical locality: TANGANYIKA: Mujenje. In B.M. from S. RHODESIA: Salisbury, 14.vi.1937 (*A. Cuthbertson*). NATAL: Willow Grange (*R. C. Wroughton*). ABYSSINIA.

A female from NATAL: Estcourt, ix.–x.1896 (*G. A. K. Marshall*) is somewhat atypical. The arista, *stpl*, *pd* preapicals of hind femora, abdominal pattern and size are as in *fascigera*, but the ocellar setae and parafacialia as in *pygialis*.

Caricea tripunctiventris Mall.

UGANDA: Kalinzu Forest (*T. H. E. Jackson*) 1 ♀. S.W. UGANDA: Kigezi Prov., Lake Mutanda, 6000 ft., xi.34 (*J. Ford*) 1 ♀.

Typical locality: NYASALAND: Mt. Mlanje (type ♂ in B.M.). In B.M. from MASHONALAND: Mt. Chirinda, 3000 ft., 12.vi.11 (*C. F. M. Swynnerton*) 1 ♂.

Caricea hargreavesi sp. n. ♂ ♀

Length 3·1–4·8 mm.; *of wings* 3·3–4·8 mm.

♂. *Head* black, grey dusted, interfrontalia dull black with slight whitish and brown reflections when seen from in front, frontal triangle brownish dusted, parafrontalia, face, jowls and temples densely whitish-grey dusted. Frons rounded in profile, somewhat protruding at lunula (by at most width of antennae), very slightly (by about a sixth or seventh) dilated with straight sides from lunula to vertex, two-thirds as wide anteriorly as one eye, more than twice as long as wide in front; fronto-facial stripe strongly dilated with almost straight sides from lunula to lower margin of eyes, where it is twice as wide; parafrontalia well defined, a quarter as wide in front, almost one-half as wide behind as interfrontalia, with three not very strong inclinate setae (the second of them weaker). Inner vertical strong, outer vertical absent, post-verticals not very strong, ocellars strong, at least half as long as frons. Antennae black, second joint interiorly at apex and third joint brownish-grey dusted, third joint thrice as long as wide, not quite reaching lower margin of eyes (the latter not quite reaching mouth-margin), falling short of mouth-margin by width of third antennal joint; arista plumose, the hairs rather long in basal half, some of them as long as the third antennal joint wide. Palpi fuscous. Parafacialia one-half as wide or wider, jowls as wide as third antennal joint.

Thorax black, grey dusted, dorsum with a narrow brown median vitta, a pair of disintegrated vittae along the *dc* and traces of a somewhat oblique pair of vittae through the *prst* and *sa* pores, scutellum with some faint brownish spots along base. *acr* in two rows, rather numerous and not very short, some additional setulae towards scutellum, 1+3 long and strong *dc*, posterior *ia*

well developed; scutellum setulose with two pairs of strong setae, the lateral ones conspicuously shorter. Posterior propleural and upper prostigmatal rather strong, lower prostigmatal rather weak, curved downward, surrounded by a few fine, erect hairs. *stpl* in a triangle which bears rather numerous erect hairs and the posterior side of which is slightly longer than the others, lower *stpl* moderately strong, anterior one strong, much longer than the lower one, the posterior one very strong though only moderately longer and stronger than the anterior *stpl*.

Abdomen black, grey dusted, first to fourth segments each with a median vitta and a pair of transverse spots which are often more or less broadly fused with the median vitta, as long as thorax, oblong-oval, strongly compressed at apex, second segment with a moderate lateral discal seta, third and fourth segments each with a transverse discal row of two pairs of strong setae, fourth besides with a fine lateral marginal seta, fifth with a pair of long and fine setae and some fine setulose hairs, fourth sternite entirely dark grey dusted.

Legs entirely black and glossy, hardly dusted, except for the coxae which are dull, grey dusted; the knees, especially the fore knees, sometimes narrowly yellowish. Front femora with 7–8 rather small *pd* setae, 3–4 rather long *p* setae near base and smaller ones up to apex, and 6–7 long *pv*, alternating with fine ones, front tibiae with a long *pv* seta at almost three-fifths; mid-femora with 4–5 short *av* up to apex, three long *pv* in basal half and a smaller one at three-fifths, and two preapicals (*p* and *pd*), mid-tibiae with a strong *ad* seta at two-thirds and a much smaller *pd* slightly basad of it; hind femora with seven rather strong *ad*, a number of small *av*, two strong ones at one- and two-thirds and a preapical *av*, a moderate *pv* at a quarter, a very strong one at two-fifths, a moderate one at three-fifths, and two *pd* near apex, the last of them being the normal preapical, hind tibiae with a very strong *pd* at middle and a shorter *a* very close to it.

Wings hyaline, hardly smoky, veins light brown with testaceous bases, r_{4+5} and *m* slightly diverging at apex, *r-m* at slightly beyond middle to three-fifths of the discal cell. Calyptrae hyaline with pale yellow border, lower one twice as long as upper one, strongly projecting, sides subparallel with broadly rounded apex. Halteres pale ferruginous.

♀ similar to male, not differing except by the not compressed, but depressed, pointed abdomen, the setae of the legs stronger.

UGANDA: Ruwenzori, Kilembe, 4500 ft. (*F.W.E.*) ♂ type, 12 ♂ 14 ♀ paratypes (one ♀ with prey: *Sciara* sp.); Fort Portal, 4.xii.1934 (*F.W.E.*) 1 ♂ paratype; Katosi, 20.ix.1936, on debris at edge of lake (*E. G. Gibbins*) 1 ♂ paratype; Kampala, 30.i.1927 (*H. Hargreaves*) 1 ♂ paratype; Butandiga, 12.i.1930 (*H. Hargreaves*) 1 ♂ 2 ♀ paratypes.

A most exceptional character of this species is the double *pd* preapical seta on the hind femora.

Caricea tertriguttata sp. n. ♂ ♀

Length 2·6–3·4 mm.; *of wings* 2·3–3·2 mm.

♂. *Head* black, densely grey dusted, face, parafacialia, jowls and lower part of temples silver-white dusted, interfrontalia rather densely grey dusted with brownish reflections when seen from in front, black only in a strictly dorsal view. Head similar to that of *Coenosia*, almost as long as high, frons slightly rounded in profile, projecting at lunula by width of antennae, subparallel, slightly wider than one eye, one-half longer than wide, fronto-facial stripe very slightly narrowed to base of second antennal joint, rather strongly widened with straight sides from there to lower margin of eyes, where it is a third wider than at vertex; parafrontalia rather well defined, a quarter as wide in middle as interfrontalia, with two strong, one moderate and often 1–2 small inclinate setae. Inner vertical strong, outer one indistinct, postverticals not very strong, ocellars long and rather strong. Antennae fuscous, second joint silver-grey dusted interiorly at apex, third joint two-and-a-half times as long as wide, almost reaching lower margin of eyes (the latter not reaching level of mouth-margin), falling short of mouth-margin by slightly more than its width; arista bare on apical third, plumose in basal half, the longest hairs as long as the third antennal joint is wide. Palpi black. Parafacialia two-thirds to almost as wide, jowls one-and-a-half times as wide as the third antennal joint.

Thorax black, densely grey dusted, with a rather faint and very narrow dark brown vitta along the *acr*, which is triangularly widened before scutellum, and a disintegrated similar narrow vitta along the *dc*, scutellum somewhat brownish dusted on disc. *acr* small, in two rows which are very close together, a few additional setulae towards scutellum, 1+3 very strong and long *dc*, posterior *ia* distinct though rather small; scutellum sparsely setulose, with two pairs of strong setae, the lateral ones conspicuously shorter. Propleurals and prostigmatals rather strong, lower prostigmatal curved downward, with 1–2 adjacent minute hairs. *stpl* in a triangle which bears a few small hairs and the anterior side of which is considerably shorter, lower *stpl* moderately strong, anterior one strong, posterior *stpl* very long and strong.

Abdomen black, densely grey dusted, the second to fourth segments each with an incomplete median vitta and a pair of rather large dark brown spots, hardly longer than thorax, hardly depressed at base, strongly compressed from middle to apex, first to fourth segments each with a rather strong lateral discal seta, third besides with a small and fourth with a strong subdorsal seta, fourth with two lateral marginals, fifth with a pair of fine, erect setae, fourth ventrite with numerous, erect, long and partly strong hairs.

Legs black, rather densely grey dusted, tibiae narrowly testaceous translucent at base; front femora with five rather strong *pd* setae, three moderately long *p* setae near base and small ones up to apex, and six rather long *pv*,

alternating with small ones, front tibiae with a rather strong *pv* seta; mid-femora with four *a* setae in basal two-thirds, the last two of them rather strong, a distinct *a* preapical level with the *p* and *pd* preapicals, and three long *pv* in basal half, mid-tibiae with a strong but not very long *pd* slightly beyond middle and a slightly longer *ad* not much beyond the *pd*; hind femora with five strong *ad* setae, some unequal *av*, among which there are two strong ones at one- and two-thirds and a rather strong preapical slightly before the level of the *pd* preapical, a long *pv* near base, a strong one at two-fifths and a fine one at three-fifths, hind tibiae with a strong but not very long *ad* and a slightly shorter *a* close together at middle.

Wings hyaline, hardly smoky, veins brown with testaceous base, r_{4+5} and *m* parallel to slightly diverging at apex, *r–m* slightly beyond middle of discal cell. Calyptrae whitish with pale testaceous margin, lower one not very large, about twice as long as the upper one, sides subparallel, rather broadly rounded at apex. Halteres pale ferruginous.

♀ very similar to male, the abdomen somewhat more elongate and depressed, pointed.

KENYA: Mt. Elgon, heath zone, 10,500–11,500 ft., ii.1935 (*F.W.E.*) ♂ type, 2 ♂ 2 ♀ paratypes.

Pygophora Schin.

This genus has, owing to its long frons, short frontal triangle and high head, more resemblance to typical Coenosiinae than any of the following genera. Four species have been described from Africa and the Seychelles, but *Coenosia pallipalpis* Stein from the Seychelles, the types of which are in the B.M., is also a *Pygophora*. In these five species the wings are never spotted and the legs of the male are entirely pale.

KEY TO THE ETHIOPIAN SPECIES OF PYGOPHORA

1(2). Hind tibiae of male with an apica process on ventral surface. Femora largely piceous in female. Humeri and scutellum entirely dark. Mentum piceous. 2+3 *dc.* Seychelles. . . . [*lobata* Stein]

2(1). Hind tibiae of male without an apical process on ventral surface. Legs entirely pale in both sexes.

3(6). Humeri and scutellum yellow. Mentum yellow.

4(5). Propleural depression yellow. Uppermost frontal seta level with the ocellars or the anterior ocellus. Mid-femora without a conspicuous row of dense black setulae on the apical third of the *pv* surface. Male with the lateral parts of the fourth ventrite simply angular on dorsal extremity, with very short and inconspicuous setulae on ventral extremity. Smaller: 5–6·5 mm. . . . . *alemella* Ség., p. 243

5(4). Propleural depression blackish (though densely whitish-grey dusted). Uppermost frontal seta level with or behind posterior ocelli. Mid-femora with a conspicuous row of dense black setulae on the apical third of the *pv*

surface; these are increased in number and arranged in a multiple row in the male. Lateral parts of the fourth ventrite of male pointed and prolonged on dorsal extremity, and with rather long and conspicuous setulae on ventral extremity. Larger: 6·5–7 mm. *acromiata* Speis., p. 243

6(3). Humeri and scutellum black, grey dusted. Mentum piceous.

7(8). 5·5–6·5 mm. Abdomen entirely blackish-grey, not translucent. Third to fifth tarsal joints very short. Seychelles. . . . [*pallipalpis* Stein]

8(7). 4·5 mm. Abdomen yellowish translucent at base. . [**parvipuncta* Stein]

Pygophora alemella Ség.

Séguy, 1938, Miss. scient. Omo 4, Zool.: 368.

UGANDA: Ruwenzori, Nyamgasani Valley, 6400 ft. (*D. R. Buxton*) 1 ♂ 1 ♀; Namwamba Valley, 6500 ft. (*F.W.E.*) 2 ♀; Kilembe, 4500 ft. (*F.W.E.*) 1 ♀. Budongo Forest, 7.-8.ii.1935 (*F.W.E.*) 2 ♂ 3 ♀.

Typical locality: KENYA: Mt. Elgon, eastern slope, Elgon Saw-mill, 2470 m.

Though Séguy does not compare his species with the known African forms, it is probable that his description refers to the present species, because the apical half of the mid-femora is evidently devoid of the setulae characteristic of *acromiata*, and the hypopygium is described as yellow without mentioning another colour for the inferior forceps, which is black in *acromiata* but yellow in the present form. Unfortunately the type is not accessible owing to the war conditions, as M. Séguy was kind enough to inform me.

Pygophora acromiata Speis.

Speiser, 1910, Wiss. Ergebn. Sjöstedts Kilimandjaro–Meru Exp. 2, Diptera: 159 note (nom. nov. pro *Coenosia humeralis* Stein 1906, non Wied. 1830).

UGANDA: Ruwenzori, Kilembe, 4500 ft. (*F.W.E.*) 1 ♂ 1 ♀.

Typical localities: TANGANYIKA: Langenburg (Lake Nyasa), N. CAMEROON, (? TOGO: Bismarckburg). In B.M. from S. NIGERIA (Abo), N. NIGERIA (Ibi), ASHANTI (Obuasi), PORT. EAST AFRICA: E. of Mt. Mlanje, 3.-7.x.1913 (*S. A. Neave*). UGANDA: Bwamba Forest, Semliki Valley, 2300–2800 ft., 3.-7.xi.1911 (*S. A. Neave*). KENYA: Embu, Rugendo's, 4400 ft., 14.vi.1914 (*C. St. J. O. Browne*); Ruiru, 6.vii., 13.vii., 19.viii.1935, on coffee (*H. C. James*); Kiambu, 15.vii.1932, on coffee (*H. C. James*). I saw a specimen from UGANDA: Kampala, 4.x.1934 (*H. Hargreaves*), mounted with its prey, which has been identified by Dr. F. W. Edwards as a male of *Sciara flavoscutellata* End.?

Though *Coenosia humeralis* Wied. was moved to *Atherigona* by Stein in 1902, *humeralis* Stein 1906 as a secondary homonym can unfortunately not be used and must be replaced by Speiser's nom. nov., as the rules stand at present.

Pectiniseta obscura sp. n. ♂

Length 4·0 mm.; *of wings* 3·3 mm.

Head one and a half times as wide in front view as high, black, dark brown

dusted, face, jowls and lower part of occiput reddish-grey translucent, grey dusted. Frons slightly wider anteriorly than one eye, very slightly narrowed to vertex, parafrontalia not distinguished by paler dust, with two inclinate and two reclinate pairs of frontals, the anterior reclinate seta much longer than the posterior one, fronto-facial stripe very slightly narrowed from base of antennae almost to vibrissae. Inner verticals very strong, outer verticals weak, postverticals rather strong, ocellars strong, reaching anterior end of frons. Antennae inserted at dorsal third of eyes, fuscous, third joint long, almost reaching mouth-margin (which is distinctly passed by the lower margin of eyes), covered with fine white, very conspicuous pile, arista bare beneath, long-pectinate above, the hairs about half as long as the third antennal joint. Palpi yellow, slightly long clavate, mentum dark-brown, jowls about two-thirds as wide as third antennal joint.

Thorax piceous-brown, densely dark brown dusted on dorsum, grey dusted on pleurae. *prst acr* in three irregular rows, the outer ones longer, *post acr* similar but more numerous towards scutellum, 2 + 3 *dc*, the first *prst* and *post* much shorter and finer than the others, the first *prst* closer to the second *prst* than the latter to the suture. Two weak *ia*, prealar absent. Scutellum setulose and with two pairs of strong setae. Upper prostigmatal seta slightly stronger than upper propleural, lower setae hair-like. *stpl* in a triangle, the posterior side of which is somewhat shorter and which bears some fine hairs, posterior *stpl* strong, the other two fine though quite long, the lower one somewhat shorter.

Abdomen subconical, narrowed at base, strongly convex, slightly curved downward, dorsum uniformly dark brown, brown dusted, base, apex and ventral surface of abdomen grey dusted, ventral part of first segment testaceous, translucent, margins of the other segments narrowly yellowish-translucent; ventrites reddish-grey with translucent-yellowish margins, dull, greyish dusted. Lateral setae of first to fourth segments distinct, hairs rather long, half-appressed, fifth segment with a pair of fine marginal setae and some small hairs. Superior forceps fused, triangularly pointed, lobes of fourth ventrite deeply emarginate at apex, so that the apex of their inner margin projects backward as a short spine, which is shining, as is the apical half of the inner margin.

Legs entirely testaceous (hind legs missing), femora with numerous fine, erect hairs, front femora with a brown shadow along dorsum and about five long *pv* setae, front tibiae without a submedian seta, with three long preapical setae on the same level (*d*, *pd* and *p*), ventral surface rather densely clothed with short appressed setulae towards apex, ventral surface of metatarsus densely beset with similar setulae, whereas the other tarsal joints are soled with a white pile. Mid-femora with three moderate *a* setae near middle and a *pd* preapical seta, mid-tibiae with a long, fine submedian *pd*, mid-tarsi not soled.

Wings smoky, the veins brown, r_{4+5} and *m* slightly but very distinctly

converging at apex, *r–m* very short, just beyond middle of discal cell, sixth vein reaching one-third of the distance to margin. Calyptrae brownish-hyaline with brownish margin and yellowish fringe. Halteres yellow.

UGANDA: Ruwenzori, Bwamba Pass (west side), 5500–7500 ft. (*F.W.E.*) ♂ type.

P. prominens Stein 1910,[1] the only species of *Pectiniseta* known from the Ethiopian region, is distinguished from the present species, according to Stein's description, by black coxae and femora (except for the extreme apex), whitish-grey dusted frons, pale cinereous-grey pruinosity of thorax and scutellum, and the greyish dust of the abdomen, on the second to fourth segments of which a median vitta and a pair of dark spots are distinct in posterior view. The sternites are glossy black in *prominens*, r_{4+5} and *m* diverge slightly, the sixth vein reaches middle, and the calyptrae are white. *P. prominens* is not in the B.M.

Lispocephala Pok.

Three species have been listed from the Ethiopian region, and I have the same number of species before me. Besides, *Caricea sexnotata* Ad., a type of which I have seen, proves to be a *Lispocephala* and a synonym of the form known as *L. miki* Strobl. The characters of colour are evidently rather variable in this genus, and a thorough study of a richer material is wanted. The three Ethiopian forms at hand may be distinguished by the following key.

1(2). Thorax with a pair of brown vittae along the *dc*. Paired spots of second to fourth abdominal segments large and subquadrate, deep black, conspicuous even in dorsal view, first abdominal segment not translucent. Fourth ventrite of male grey and dusted, its ventral half with a vertical row of four very strong, closely adjacent black setae, which are conspicuously stouter than the marginal setae of the dorsum. Superior forceps spiniform, extremely short, inferior forceps paired, elongate claw-shaped, about five times as long as the superior forceps. (Frons distinctly and rather broadly reddish at anterior margin. Front coxae and basal half of front femora often grey. Third antennal joint light orange in male, infuscate with light orange base in female.) *squamifera* Stein, p. 246

2(1). Thorax without vittae. Paired spots of second to fourth abdominal segments small, oval, conspicuous and rather black only in posterior view. Fourth ventrite of male testaceous and shining near apex, with few, sparse, fine setae and hairs, the strongest among them being considerably finer than the marginal setae of the dorsum. Superior forceps spiniform, of moderate length, inferior forceps paired, hardly longer than the superior forceps. (Frons not or very narrowly reddish at anterior margin. Front coxae and front femora always yellow, except for a small greyish patch at the base of the coxae.)

[1] See note p. 103; the species was redescribed by Stein in 1910 (Ann. Mus. nat. Hungar. 8: 564) and briefly in 1917 (Arch. Nat. gesch. 83 A 1: 145).

3(4). Antennae entirely light orange. First abdominal segment usually (and second sometimes) translucent yellowish laterally and ventrally. Inferior forceps rather broad near base, emarginate interiorly near apex, the latter pointed and curved downward and inward.
miki Strobl, p. 246

4(3). Third antennal joint fuscous, with the base narrowly light orange. Base of abdomen not translucent yellowish. Inferior forceps parallel and depressed, simply rounded at apex. . . . . . [*africana* Mall.]

Lispocephala squamifera Stein

UGANDA: Kigezi District, Mabungo Camp, 6000 ft., 24.xi.1934 (*J. Ford*) 1 ♀; Ruwenzori, Kilembe, 4500 ft. (*F.W.E.*) 1 ♀.

Typical locality: NATAL: Durban.

These two females have the front coxae and basal half of the front femora grey like the typical couple. I have seen two males and three females from KENYA: Chyulu Hills, 5600 ft., vi. and vii.1938 (Coryndon Museum Exped.), of which only one female has the typical coloration of the front legs, whereas the others have the front femora entirely and the front coxae more or less largely yellow. There is some slight doubt as to the identification of the species, as Stein describes the "Bauchlamellen" (ventrites) as bearing at their apex the black, backward pointing, closely adjacent setae which make them appear "feathered". These words are, however, contained in the sentence describing the hypopygium, and I assume that the lateral lobes of the fourth ventrite only are meant by "Bauchlamellen".

Lispocephala miki Strobl

n. syn. *Caricea sexnotata* Ad. 1905, Kansas Univ. Sci. Bull. 3: 205.

KENYA: Mt. Elgon, Kapretwa, 6500 ft., ii.1935 (*F.W.E.*) 2 ♂; Aberdare Range, Mt. Kinangop, 8000 and 9000 ft., x. and 1.xi.1934 (*F.W.E.*) 4 ♂ 5 ♀. UGANDA: Ruwenzori, Mt. Karangora, 9900 ft. (*F.W.E.*) 1 ♂; Namwamba Valley, 6500 ft. and 10200 ft. (*F.W.E.*) 1 ♂ 2 ♀.

Typical locality: DALMATIA, Zara; reported from EUROPE, CANARY ISLANDS, ALGERIA, SYRIA and ABYSSINIA. In B.M. from the latter country.

The type of *Caricea sexnotata* Ad. (typical locality S. RHODESIA: Salisbury) has the antennae and front coxae entirely yellow, and the other characters are also those of *L. miki*. The Ruwenzori specimens are slightly larger than the others, but the genitalia do not differ.

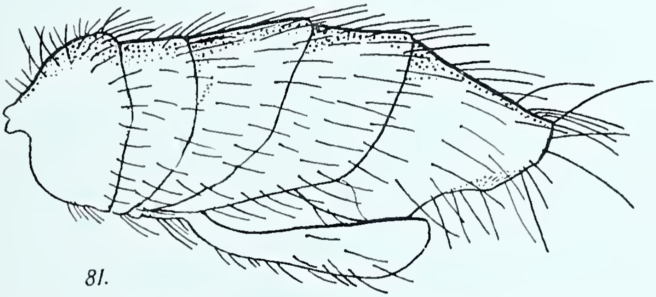
Brevicosta africana Mall.

UGANDA: Ruwenzori, Nyamgasani Valley, 6400 ft. (*D. R. Buxton*) 4 ♂ 3 ♀;

Namwamba Valley, 6500 ft. (*F.W.E.*) 2 ♂ 2 ♀; Kigezi District, Mabungo Camp, 6000 ft., xi.1934 (*J. Ford*) 1 ♀; Masaka, 13.xi.1934 (*F.W.E.*) 1 ♀.

Typical locality: S. NIGERIA, Zungeru (in B.M.).

The male is new to science. Its characters are the same as those of the female. The abdominal segments (Fig. 81) are very much shortened on the ventral surface, so that the apex of the third ventrite is at about basal third of abdomen, the fourth extremely long and very deeply cleft, so that it forms two narrow, long testaceous lobes along the ventral surface of the abdomen, extending to beyond level of dorsal hind margin of fourth segment, fifth segment much longer dorsally than fourth, pointed, similar in shape to the female fourth



81.

FIG. 81.—Abdomen of *Brevicosta africana* Mall. ♂, lateral view.

segment. The wings of the male are slightly and often not very distinctly clouded along apex of r_{2+3}, this being very distinctly the case even in one female (from Masaka).

Orchisia costata Meig.

UGANDA: Ruwenzori, Kilembe, 4500 ft. (*F.W.E.*) 2 ♂; Namwamba Valley, 8300 ft. (*F.W.E.*) 1 ♂; Kigezi District, Mabungo Camp, 6000 ft., 18.xi.1934 (*J. Ford*) 1 ♂.

Typical locality unknown; widely distributed: S. EUROPE, CHINA, FORMOSA, FIJI (B.M.), SAMOA (B.M.). The species has been reported from MADAGASCAR and many places in AFRICA: S. RHODESIA, NATAL, TANGANYIKA, UGANDA. In B.M. from ABYSSINIA, GAMBIA and KENYA.

Spanochaeta dorsalis v. Roser

UGANDA: Ruwenzori, Kilembe, 4500 ft. (*F.W.E.*) 1 ♂.

This single African specimen at hand shows some slight differences from British examples, the hairs of the arista being appreciably longer and the

abdomen somewhat shorter (though very similar). More material will be necessary before any conclusion should be drawn from these deviations.

Amicitia gen. n.

Frons subequal in both sexes, broadly separating the eyes, with two pairs of reclinate frontal setae, the anterior one of them stronger; frons plane, strongly protruding in profile at base of antennae, the frontal triangle not passing middle. Thorax with 2 + 3 *dc*, of which, however, the first is always much smaller than the second and sometimes indistinguishable, often the second *prst* and first *post dc* are also weak. Scutellum with the apical setae strong, the lateral pair weak or missing. Two rather strong propleural and prostigmatal setae, the lower prostigmatal curved downward. Three *stpl* in an almost equilateral triangle, or the anterior one absent. Abdomen slender, parallel. Front tibiae with a *pd* submedian seta, mid-tibiae with a single submedian seta (on *pd* surface), hind tibiae (Fig. 82) with a moderate and a strong *ad* seta, a moderate *av* seta and one (males) or two (females and some males), *pd* setae. Costa without a spine, reaching apex of *m*, all the other veins bare, sixth vein not much passing middle of the distance to margin. Lower calyptra longer than upper one.

Genotype: *Amicitia lucens* sp. n.

By Séguy's key the species would be run to the American genus *Phyllogaster* Stein, from which they differ, however, by two pairs of reclinate frontal setae, *Phyllogaster* having apparently only one pair of reclinate frontal setae (according to figure in Curran, 1924, Fam. Gen. N. Amer. Diptera, p. 388, Fig. 6). It is, moreover, evident from Curran's key (l.c. p. 396–399) that the *stpl* are placed as in Mydaeini, not in an almost equilateral triangle. Thus, it does not seem that *Amicitia* is closely related with *Phyllogaster*. In the latter the mid-tibiae have two *pd* setae and the ovipositor of the female is adorned with two or four thorns, protruding behind the fourth segment, which are not present in *Amicitia*.

The species of *Amicitia* differ rather strikingly among each other, but they are, nevertheless, closely related.

The genus is dedicated to friendship, one of the most noble and unselfish sentiments of mankind, and to all the kind friends, who have given me their sympathy, encouragement and help in these last seven years after my unprovoked misfortune.

Key to the Species of Amicitia

1(4). 1+3 strong *dc* present. Lateral scutellar setae small, less than half as long as the first two *post dc*, but distinct. Vittae of thorax brown-pruinose. Hind tibiae with one or two rather weak *pd* setae in both sexes, not densely hairy. Mid-femora with a *p* and a *pd* preapical seta.

2(3). Front coxae and all the femora yellow, only the hind femora in male with a slight brown shadow on apex of dorsal surface, in female with the apical quarter piceous on dorsum. Anterior paramere of male strongly curved, claw-shaped. . . . . . . *modesta* sp. n., p. 249

3(2). Front coxae and femora black except for a small apical area, apical half to third of mid and hind femora black. Anterior paramere very slightly curved, spine-shaped. . . . . . . *seclusa*, sp. n., p. 251

4(1). Only one or two fairly strong *post dc* present, the first *post* pair and two *prst* pairs very weak. Lateral scutellar setae lacking or hair-like. Vittae of thorax black and shining. Hind tibiae of male densely beset with long erect hairs (Fig. 82). Mid-femora with a single *p* preapical seta.

5(6). Third joint of arista hardly longer than third antennal joint, half as wide, including plumosity, as third antennal joint. Lateral scutellars absent. *pd* setae of hind tibiae (Fig. 82) not distinguishable in male, amongst the *pd* hairs, many of which are much longer than the *pv* hairs. Mid-metatarsus of moderate length, not longer than the hind metatarsus, piceous; front metatarsus with short hairs all round. Front and mid-femora with less than apical half piceous on dorsal surface. *lucens*, sp. n., p. 252

6(5). Third joint of arista more than twice as long as third antennal joint, bare on ventral surface, the longest hairs of dorsal surface not longer than the diameter of the arista at basal quarter. Lateral scutellars hair-like. *pd* setae of hind tibiae distinct, even in male, the longest *pd* hairs being much shorter than the *pv* hairs. Mid-metatarsus distinctly longer than the hind metatarsus, front metatarsus with a fringe of long erect *p* hairs. Front and mid-femora with the entire dorsal surface piceous. *insignis*, sp. n., p. 254

Amicitia modesta sp. n. ♂ ♀

Length 3·6–5·1 mm.; *of wings* 4·0–4·8 mm.

♂. *Head* black, densely grey dusted, interfrontalia black with whitish reflections, face and parafacialia silver-white dusted. Frons slightly wider at base of antennae than one eye, distinctly narrowed to vertex, protruding in profile by the width of the third antennal segment; fronto-facial stripe almost evenly and quite slightly dilated to mouth-margin, face as long as frons. Parafrontalia well defined, with two pairs of inclinate setae, the posterior one much weaker. Outer vertical very weak, inner vertical very strong, post-verticals rather strong, ocellars strong. Antennae fuscous, very long, practically reaching mouth-margin which is level with the lower margin of the eyes, third joint more than thrice as long as wide, arista short-plumose, not much more than half as wide, including plumosity, as the third antennal joint. Palpi fuscous in apical half, testaceous in basal half. Jowls narrower than third antennal joint.

Thorax black, densely grey dusted, the pleurae bluish-grey dusted in places, dorsum with a pair of rather broad vittae of brown dust from the first *dc* to the lateral setae of scutellum. *acr* setulae in two rows, with a few additional

setulae on posterior half of postsutural part. 2 + 3 *dc*, the first about half as long as the others and closer to the second than this one to suture, lateral setae of scutellum weak, about a third as long as apical pair. *stpl* in an almost equilateral triangle, the posterior side slightly shorter, the area of the triangle usually quite bare (with a few fine erect hairs in the specimen from Mt. Sabinio), anterior *stpl* rather weak to moderate, lower one slightly stronger, posterior one very strong.

Abdomen slender, subcylindrical, very slightly depressed at base, very slightly compressed at apex, black, densely grey dusted, with a narrow median vitta on segments 1–4 and a pair of conspicuous black, rounded spots on segments 2–4 (1–4 in specimen from Mt. Sabinio); first to third segments each with a pair of strong lateral setae (and sometimes a smaller pair more at sides), fourth with a discal and marginal row, each of two to three pairs of strong setae, fifth with two pairs of quite conspicuous setae. Hypopygium with erect, somewhat wavy, bristly hairs, lateral lobes of fourth ventrite long and broad, the apex prolonged ventrally in form of a rounded, backwardly directed lobe which bears some strong setae at apex, the inner surface and the margins of the lateral lobes densely beset with fine, erect, rather short, black hairs.

Legs testaceous, mid and hind coxae black, the apex of the hind femora with a brown shadow on *pd* and *d* surfaces, tarsi infuscate, the apical joint, at least of the front tarsi, paler. Front femora with six rather strong *pv* setae (which alternate with small ones), basal half with a row of six fine short *av* setae, front tibiae with a moderate *pv* seta, mid-femora with about 6–7 *av* setae from base to beyond middle, becoming gradually longer, an *a* seta just beyond the last *av*, an *a*, *pd* and *p* preapical, about seven *pv* setae and three very small ones at apex, mid-tibiae with a moderate *pd*, hind femora with about seven *av* and *ad* setae, the latter mainly confined to the basal two-thirds, the last *ad*, a preapical, level with the *pd* preapical, hind tibiae with one or two small *pd*, a small and a strong *ad* and a rather strong *av* beyond the second *ad* and *pd* which are inserted almost level with each other.

Wings slightly smoky, veins brown with testaceous base, r_{4+5} and *m* subparallel at apex (in one specimen from Namwamba Valley slightly diverging at extreme apex), *r–m* almost at middle of discal cell, distinctly beyond end of r_1. Calyptrae whitish, with whitish fringe and yellowish-white border, lower calyptra strongly projecting beyond upper one, more than twice as long, sides subparallel in middle part. Halteres yellow.

♀. Arista as wide, including plumosity, as third antennal joint. Abdomen fusiform, more depressed. Mid-femora also with a slight brown shadow at apex of dorsal surface.

UGANDA: Ruwenzori, Namwamba Valley, 8300 ft. (*F.W.E.*) ♂ type, 1 ♂ paratype, 1 ♀ paratype. Kigezi District, Mt. Sabinio, 8000 ft., xi.1934 (*F.W.E.*)

1 ♂ paratype. The three specimens from the Namwamba Valley are at the upper limit of the size, whereas the Kigezi specimen is at the lower limit.

Amicitia seclusa sp. n. ♂

Length 4·0–4·7 mm.; *of wings* 3·4–3·8 mm.

Head black, densely grey dusted, interfrontalia black with whitish reflections, face and parafacialia silver-grey dusted. Frons slightly wider at base of antennae than one eye, distinctly narrowed to vertex, protruding in profile by the width of the third antennal joint, fronto-facial stripe almost evenly and very slightly dilated to mouth-margin, face as long as frons. Parafrontalia well defined, with two pairs of inclinate setae, the posterior one much weaker. Outer vertical very weak, inner vertical very strong, postverticals rather strong, ocellars strong. Antennae fuscous, very long, practically reaching mouth-margin which is level with the lower margin of eyes, third joint more than thrice as long as wide, arista short-plumose, not much more than half as wide, including plumosity, as the third antennal joint. Palpi fuscous. Jowls narrower than the third antennal joint.

Thorax black, densely grey dusted, dorsum with a pair of rather broad vittae of brown dust from the first *dc* to the lateral seta of scutellum. *acr* setulae in two rows with a few additional setulae on median line and behind, 2 + 3 *dc*, the first one about half as long as the others and closer to the second than this one to suture, lateral seta of scutellum weak, about a third as long as the apical pair. *stpl* in an almost equilateral triangle, the posterior side slightly shorter, the area of the triangle bare or with one or two fine, erect hairs, anterior *stpl* moderate, lower one considerably stronger, posterior one very strong.

Abdomen slender, subcylindrical, very slightly depressed at base, very slightly compressed at apex, black, densely grey dusted, with a narrow, faint median vitta on segments 1–3 and a pair of conspicuous, black, rounded, somewhat oblong spots on segments 2–4 and a less distinct, smaller pair on the first; first to third segments each with a pair of strong lateral setae (and sometimes a smaller pair more at sides), fourth with a discal and marginal row, each of 2–3 pairs of strong setae, fifth with two pairs of conspicuous setae, the inner one weaker. Hypopygium with erect, somewhat wavy, bristly hairs, lateral lobes of fourth ventrite black and shining, with the dorsal free part hyaline testaceous, long and broad, the apex prolonged ventrally in form of a rounded, backwardly directed lobe which bears some strong setae at apex, the inner surface and the margins of the lateral lobes densely beset with fine, erect, rather short, black hairs.

Legs testaceous, all the coxae, front femora (except for the extreme apex), and apical half to third of mid and hind femora black, tarsi somewhat infuscate,

less so at apex. Front femora with six rather strong *pv* setae, which alternate with small ones, front tibiae with a moderate *pv* seta, mid-femora with 6–7 *av* setae from base to beyond middle, the last two or three somewhat longer, an *a* seta just beyond the last *av* on boundary of pale and dark colour, an *a*, *pd* and *p* preapical seta, about seven *pv* setae, about four of them on less than apical half, and about three very small ones at apex, mid-tibiae with a moderate *pd* seta, hind femora with about eight *av* and *ad* setae, the last of them a preapical, the last *ad* level with the *pd* preapical, hind tibiae with a small or a small and a moderate *pd*, a small and a strong *ad* and a rather strong *av* beyond the second *ad* and *pd* which are inserted almost level with each other.

Wings somewhat smoky, veins brown with testaceous base, r_{4+5} and m subparallel at apex, very slightly diverging at extreme apex, *r–m* almost at middle of discal cell, distinctly beyond apex of r_1. Calyptrae whitish with yellowish-white fringe and border, lower calyptra strongly projecting beyond upper one, more than twice as long, subparallel in middle. Halteres reddish-yellow.

UGANDA: Kigezi District, Mt. Sabinio, 8000 ft., xi.1934 (*F.W.E.*) ♂ type; Kanaba, 7300–7800 ft., xi.1934 (*F.W.E.*) 3 ♂ paratypes.

This form is almost identical with *modesta*, except for the great difference in the coloration of the legs and the slight difference in the genitalia described in the key. One would therefore be inclined to regard these specimens as a subspecies, but this theory is not supported by the fact that on Mt. Sabinio *modesta* was also found.

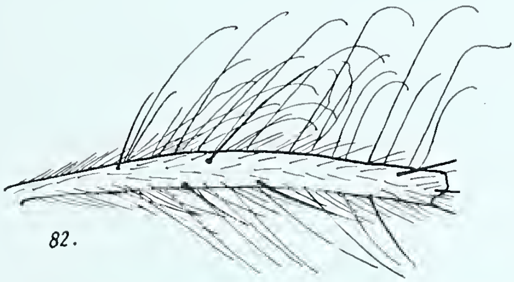
Amicitia lucens sp. n. ♂ ♀

Length 4·6–5·5 mm.; *of wings* 4·3–4·8 mm.

♂. *Head* black, dorsal half of occiput sparsely grey dusted, lower part of occiput, temples, parafrontalia, parafacialia, facial ridges and jowls densely grey to silver-grey dusted, face and interfrontalia dull black, with brownish reflections. Frons as wide anteriorly as one eye, strongly narrowed to vertex with almost straight sides, plane, projecting in profile beyond eyes by more than one and a half times the width of the third antennal joint, fronto-facial stripe very slightly and broadly sinuate between base of antennae and vibrissae, almost parallel, slightly dilated from above vibrissae to lower margin of eyes. Parafrontalia well defined, more than two-thirds as wide in front, almost half as wide in middle as interfrontalia, with two pairs of inclinate frontal setae, the posterior one much weaker. Outer vertical very weak, inner vertical very strong, postverticals and ocellars rather weak. Antennae fuscous, very long, reaching the mouth-margin which is level with the lower margin of eyes, third joint four times as long as wide, arista elbowed, its third joint hardly longer than the third antennal joint, very short-haired on most of its length, the

longest hairs being as long as the second joint of arista is wide. Palpi fuscous, slightly paler near base. Jowls narrower than third antennal joint.

Thorax black, pleurae rather densely grey dusted, mesonotum glossy with a slight median vitta of sparse pollinosity, humeri and sides of mesonotum rather densely dusted, the ensuing two broad, black vittae very slightly brownish-dusted, as is the area in front of the scutellum. *acr* hairs very fine and inconspicuous, in two rows, with single additional hairs behind. $2 + 3$ *dc*, of which only the last two pairs are well developed, the first *prst dc* sometimes not distinguishable; scutellum with some fine short hairs, lateral seta not distinguishable, apical setae long and strong. *stpl* in a triangle, the posterior



82.

FIG. 82.—Left hind tibia of *Amicitia lucens* sp. n., lateral view.

side of which is somewhat shorter, area with single fine hairs, anterior *stpl* weak, lower one rather strong, posterior one very strong.

Abdomen slender, long, subcylindrical, somewhat depressed at base, slightly compressed at apex, black and shining, sides of base of first segment, a narrow hind margin, and an inconspicuous, somewhat broader front margin on each segment grey dusted; first to fourth segments each with a conspicuous lateral seta rather close to base, fourth besides with a marginal row of four strong setae, fifth with one pair of long and fine setae. Lateral lobes of fourth ventrite vertical, translucent testaceous, glossy and bare.

Legs yellow, coxae dusted, mid and hind coxae mainly black in ground-colour, front femora with a piceous streak on dorsal surface of less than apical half, mid-femora with a similar streak on approximately apical half, hind femora on apical quarter. Middle of tibiae more or less infuscate, tarsi piceous. Front femora with about seven *pd* and five rather short *pv* (alternating with very small ones), the last one stronger, developed as a preapical seta, front tibiae with a rather long submedian *pv*; mid-femora with three rather strong (the middle one very strong) *pv* and a single *p* preapical, mid-tibiae with a fine submedian *pd*; hind femora and tibiae gently though distinctly curved, hind femora with 5–7 *ad*, the last one a strong preapical seta, five *a*, of which the last

one is very strong and is followed by an *av* preapical seta, and a fine *pd* preapical seta, hind tibiae (Fig. 82) with two long *ad*, about four long *av*, about ten very long and erect ventral setae, the longest of which are at least a quarter as long as the tibia, *p* surface clothed with very fine, erect, short hairs, *pd* surface with two longitudinal rows of very long, erect setae, the less dorsal ones finer, shorter and curled at apex.

Wings hyaline, with brown veins, very slender, r_{4+5} and *m* very slightly converging, *m* almost inappreciably upcurved shortly before apex, *r–m* almost at middle of discal cell. Calyptrae rather small, the lower one subtriangular with rounded apex, though distinctly projecting beyond upper one, hyaline with yellowish border. Halteres testaceous.

♀. Antennae somewhat shorter and narrower. Abdomen elongate-fusiform. Hind tibiae without erect hairs, but with two conspicuous *ad*, *pd* and one or two *av* setae.

UGANDA: Kigezi District, Kanaba, 7300–7800 ft., xi.1934 (*F.W.E.*) ♂ type, 3 ♂ paratypes, 4 ♀ paratypes.

Amicitia insignis sp. n. ♂

Length ca. 5·5 mm.; *of wings* 5·9 mm.

Head black, grey dusted, interfrontalia dull black in dorsal view, but the whole frons, including interfrontalia, and face silver-white dusted. Frons as wide anteriorly as one eye, slightly narrowed to vertex, with almost straight sides, plane, projecting in profile beyond eyes by more than one and a half times the width of the third antennal joint, fronto-facial stripe gradually and extremely slightly dilated to ventral margin of eyes, almost inappreciably sinuate between base of antennae and vibrissae. Parafrontalia well defined in dorsal view, two thirds as wide in front, a third as wide in middle as interfrontalia, with two rather weak pairs of inclinate setae. Outer vertical very weak, inner vertical strong, postverticals and ocellars rather weak. Antennae fuscous, very long, almost reaching the mouth-margin which is level with the lower margin of eyes, third joint more than four times as long as wide, arista very long, its third joint more than twice as long as the third antennal joint, bare on ventral surface, with very sparse and extremely short hair on dorsal surface, the longest hairs not longer than the diameter of the arista at basal quarter; second joint of arista longer than the third antennal joint is wide. Palpi fuscous, the basal half brown. Jowls narrower than the third antennal joint.

Thorax black, pleurae rather densely grey dusted, mesonotum glossy black with a moderately broad median vitta of grey dust and the humeri and sides of mesonotum rather densely grey dusted, the median vitta not very sharply defined and continued to apex of scutellum. *acr* hairs very fine, in two rows

before suture, a few additional hairs behind. *dc* very fine and small, only the last *post* pair long and moderately strong, the other two *post dc* and the second *prst* pair very fine and small, but distinct, anterior *prst* pair not distinguishable among the recurved small *dc* hairs; scutellum with a pair of small lateral subbasal hairs, a pair of lateral hairs and long apical setae. Only two *stpl* present, the anterior one absent, the lower one very long and strong, strictly ventrad of the posterior one.

Abdomen slender, long, curved downward, rather depressed at base, somewhat compressed at apex, black and shining, sparsely grey dusted, with a broad though not very conspicuous median vitta on the first three segments, the fourth segment thinly and evenly dusted; first segment with some very long lateral setae, second and third without setae, fourth with one discal pair before middle and one marginal pair, both on lateral part of dorsum, fifth with two pairs of setae, the more dorsal one smaller; hair of abdomen rather long, fine and erect, especially on lateral and ventral surfaces.

Legs yellow, extremely long and slender, with very few setae, hind femora and tibiae slightly though distinctly curved, coxae dusted, mid and hind coxae mainly black in ground-colour, front and mid-femora with a complete piceous streak along dorsum, hind femora with a similar streak on apical half of dorsum, the last two joints of the tarsi blackish, the apex of the first to fourth joints narrowly yellowish-white, hind metatarsus slightly infuscate, rest of hind tarsi missing. Front femora with rather fine though distinct setae in *pd* and *p* rows, only with two *pv* setae in basal half, none in apical half, front tibiae with a moderate *pv* seta; mid-femora with three strong *ad* setae in basal half, one strong *pv* near base, and a single *p* preapical, mid-tibiae with a fine *pd* seta, mid-metatarsus extremely long (slightly longer than mesonotum without scutellum); hind femora with a *pv* basal seta and two *ad* near apex, without a preapical seta, hind tibiae with two *pd*, one *ad* halfway between them, a small and a longer *av* between them (and a longer *av* just basad of the *d* preapical), apical half of ventral surface with about nine very long and strong, erect setae (of about a quarter of the length of tibiae), *p* and *pd* surfaces clothed with fine, erect setae, which are curled at apex, and the longest (most dorsal) ones of which are about a sixth as long as the tibia.

Wings slender, hyaline, the veins brown, r_{4+5} and *m* distinctly converging towards apex, rather conspicuously sinuate immediately before apex, and the extreme apices even inappreciably diverging (this character will probably be somewhat variable), *r–m* at middle of discal cell. Calyptrae hyaline, border yellowish, lower calyptra strongly projecting, largely subparallel. Halteres pale yellow.

UGANDA: Kigezi District, Mt. Sabinio, 8000 ft., xi.1934 (*F.W.E.*) ♂ type.